# JOURNAL

*of the*

# AMERICAN PODIATRY ASSOCIATION

The Official Publication of the Podiatry-Chiropody Profession

FOOTGEAR ISSUE

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VOLUME 48, NUMBER 10

OCTOBER, 1958

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1. Murphy, H. L., and Klasson, D. H.: New York St. J. M. 57:1908, June 1, 1957

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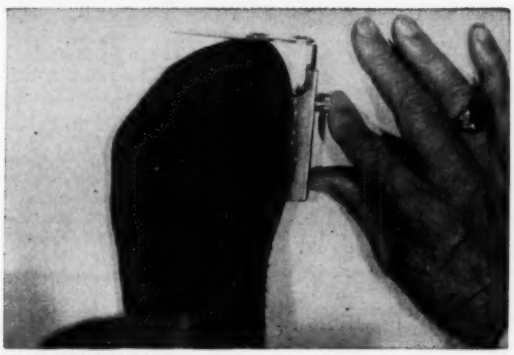

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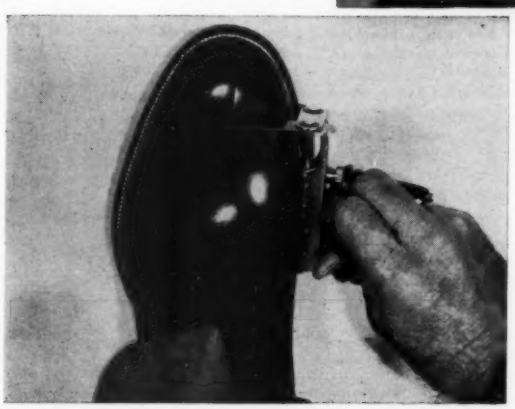

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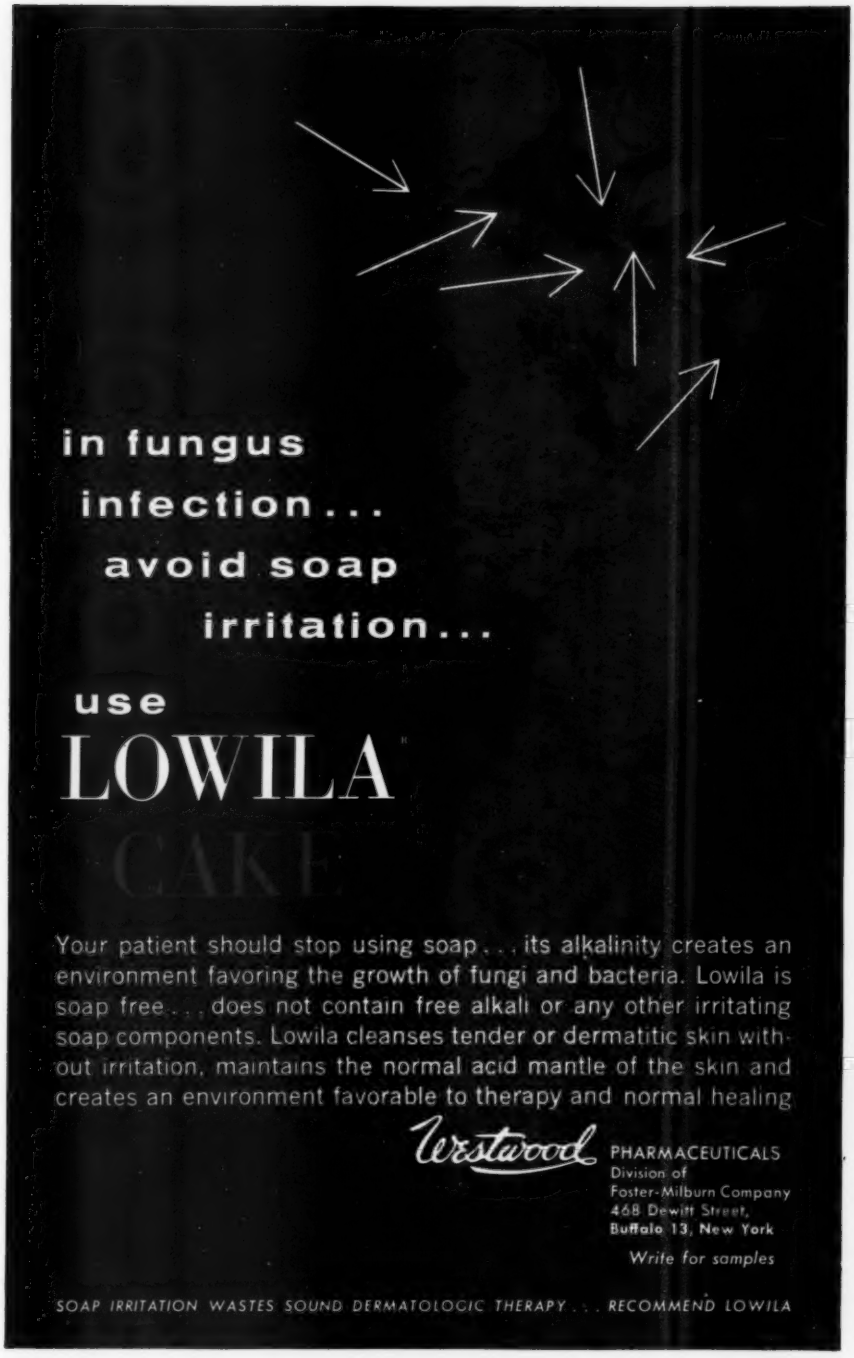
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# STATE BOARD MEETINGS FOR EXAMINATION AND LICENSURE

**Alabama**
The Alabama Medical Board of Examiners. **Board Secretary:** Dr. Elizabeth P. Sealy, 34 South Perry Street, Montgomery, Ala.

**Arizona**
The Arizona State Board of Chiropody Examiners will meet for examination in January, 1959, at Phoenix Ariz. **Board Secretary:** Dr. Julius Citron, 40 E. Thomas Rd., Phoenix, Arizona.

**Arkansas**
Arkansas State Chiropody Examining Board. **Board Secretary:** Dr. Bernard S. Paul, 800 First National Bank Bldg., Fort Smith, Ark.

**California**
The California Board of Medical Examiners will meet for examination on October 21, 22, 1958, at 1020 N St., Sacramento, Calif. **Board Chairman:** Dr. Abraham Hoffman, 2320 Sutter St., San Francisco, Calif. **Executive Secretary:** Mr. Wallace Thompson, Rm. 530, 1020 N St., Sacramento, Calif.

**Colorado**
Colorado State Board of Chiropody Examiners. **Board President:** Dr. G F. Heibig, 327 Logan St., Denver, Colo.

**Connecticut**
The Connecticut Board of Examiners in Chiropody. **Board Secretary:** Dr. F. J. Ruggiero, 3 South Main Street, W. Hartford 7, Conn.

**Delaware**
The State Board of Chiropody Examiners of Delaware. **Board Secretary:** Dr. Bertram H. Blum, 112 So. State St., Dela.

**District of Columbia**
The Board of Podiatry Examiners of the District of Columbia. **Board Secretary:** Dr. Saul Shafritz, Dept. of Occupations and Professions, 1740 Massachusetts Ave., N.W., Washington 6, D. C.

**Florida**
The Florida State Board of Chiropody Examiners. **Board Secretary:** Dr. Heywood A. Dowling, 203 Greenleaf Bldg., Jacksonville, Fla.

**Georgia**
The Georgia State Board of Podiatry Examiners. **Board President:** Dr. Charles W. Beasley, Jr., 1205 First National Bank Bldg., Atlanta, Ga.

**Idaho**
The Idaho State Board of Chiropody-Podiatry. **Board Secretary:** Dr. J. E. Franden, 412 Eastman Bldg., Boise, Idaho.

**Illinois**
The Illinois Chiropody Examining Committee will meet for reciprocity and examination on November 12-14, 1958, at 160 N. LaSalle St., Chicago, Ill. **Superintendent of Registration:** Frederic B. Selcke, Dept. of Registration and Education, Room 109, State House, Springfield, Ill.

**Iowa**
The Iowa State Chiropody Board of Examiners. **Board Secretary:** Dr. C. C. Reinheiner, 214½ First Ave. West, Newton, Iowa.

**Kansas**
The Kansas State Board of Podiatry Examiners will meet for reciprocity and examination in January, 1959, at Kansas University Medical Center, Kansas City, Kans. **Board President:** Dr. L. E. Krause, 1107 Williams St., Great Bend, Kansas, or Kansas Board of Podiatry Examiners, 872 New Brotherhood Bldg., Kansas City, Kansas. **Board Secretary:** F. J. Nash, M.D., 364 New Brotherhood Bldg., Kansas City, Kansas.

**Kentucky**
The Kentucky State Board of Chiropody meets on the third Saturday and Sunday of June and the first saturday and sunday of December each year. The December meeting is for re-examination only. **Board Secretary:** Dr. Chester A. Nava, 728 Starks Bldg., Louisville, Ky.

**Maine**
The Maine Board of Examiners in Chiropody and Podiatry will meet for reciprocity and examination on Nov. 12-13, 1958, at the City Building, Portland, Me. **Board Secretary:** Adam P. Leighton, M.D., 142 High St., Portland, Me.

**Maryland**
The Maryland Board of Chiropody Examiners. **Board Secretary:** Dr. S. Jack Kieger, 408 S. Division St., Salisbury, Md.

**Massachusetts**
The next board meeting of the Board of Registration in Chiropody-Podiatry will be held for reciprocity, conditionally, and examination, June and December, at the State House, Boston, Mass. **Board Secretary:** Dr. Charles H. Thorner, 910 Furnace Brook Parkway, Quincy, Mass.

**Michigan**
The Michigan State Board of Registration in Chiropody will meet for examination in June of each year. **Board Secretary:** Dr. Walter J. Jeffery, 1950 Madison Ave., S.E., Grand Rapids, Michigan.

**Minnesota**
The Minnesota Board of Chiropody Examiners. **Board Secretary:** H. W. Leibold, D.S.C., 221 Hamm Bldg., St. Paul 2, Minn.

**Mississippi**
The Mississippi State Board of Health, **Board Secretary:** Dr. Felix J. Underwood, Old Capitol, Jackson, Miss.

**Missouri**
The Missouri State Board of Chiropody will meet for reciprocity on Oct. 10, 1953, at the Statler Hotel in St. Louis, Mo. **Board Secretary:** Dr. L. A. Hansen, 800 Professional Bldg., Kansas City, Mo.

**Montana**
The next board meeting of the Montana Chiropody-Medical Board of Examiners will be held when the need arises for reciprocity or examination at the State Capitol, Helena, Mont. **Board Secretary:** Dr. L. M. Jennings, 411 First National Bank, Bozeman, Mont.

**Nebraska**
The Nebraska State Board of Examiners in Chiropody. **Board Secretary:** Herman F. Gartner, D.S.C., First Natl. Bank Bldg., Lincoln, Nebr.

**Nevada**
The Nevada State Chiropody Board. **Board Secretary:** Dr. William A. Edwards, 150 No. Arlington St., Reno, Nevada.

**New Hampshire**
The New Hampshire Board of Registration in Chiropody will meet for examination in December, 1958, at Concord, N. H. **Board Secretary:** Edward W. Colby, M.D., 61 S. Spring St., Concord, N. H.

**New Mexico**
The New Mexico State Board of Chiropody will meet for examination on July 11, 12, 1959, in Albuquerque, N. Mex. **Board Secretary:** Morris Haas, D.S.C., 121 Sycamore St., N. E., Albuquerque, N. M.

**New York**
The New York State Board of Podiatry Examiners. **Board Secretary:** Mr. James O. Hoyle, 23 S. Pearl St., Albany, New York.

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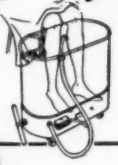

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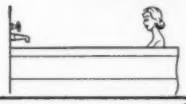

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**1. Prentice, H. and Brezak, S.: Jrnl. Amer. Podiatry Assn. 48:191, (May) 1958.**
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The next board meeting of the North Dakota Board of Registration in Chiropody will be held for reciprocity and examination at call in 1958 at 303 Black Bldg., Fargo, N. Dak. **Board Secretary:** Dr. E. B. Snuff, 303 Black Bldg., Fargo. No. Dak.

**Oklahoma**

The Oklahoma State Board of Chiropody. **Board Secretary:** Dr. Warren D. Long, 1217 No. Walker St., Oklahoma City, Okla.

**Oregon**

Oregon State Chiropodists Examining Board. **Board Secretary:** Harold M. Erickson, M.D., 914 State Office Bldg., Portland 1, Oregon.

**Pennsylvania**

Pennsylvania State Board of Chiropody Examiners. **Board Chairman:** Dr. Ralph H. Orr, 424 Colorado Drive, Erie, Pa. **Board Secretary:** Dr. Jack S. Pincus, 26 N. Third St., Harrisburg, Pa.

**Rhode Island**

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**South Carolina**

The South Carolina Board of Chiropody Examiners. **Board Secretary:** Dr. Charles W. Clark, 535 Harden St., Five Points, Columbia, South Carolina.

**South Dakota**

The South Dakota State Board of Chiropody Examiners will meet at the discretion of the Board. **Board Secretary:** Dr. Fred D. Rule, 204 Kresge Bldg., Sioux Falls, S. D.

**Tennessee**

The Tennessee Board of Registration in Chiropody. **Board Secretary:** Dr. Arthur Richert, 3355 Poplar St., Memphis, Tenn.

**Texas**

The Texas State Board of Chiropody Examiners. **Board Secretary:** Dr. Lewis M. Hoppock, P. O. Box 3315, Temple, Texas.

**Utah**

The Utah State Board of Chiropody Examiners. **Board Secretary:** Dr. A. Bowden, First Security Bank Bldg., Provo, Utah.

**Vermont**

Vermont Chiropody Association. **Board Secretary:** Dr. Regis P. Nolin, 14 Clarke St., Burlington, Vt.

**Washington**

The Washington State Board of Chiropody. **Board Secretary:** Edw. C. Dohm, Gen. Adm. Bldg., Olympia, Wash.

**West Virginia**

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**Wisconsin**

The Wisconsin Board of Examiners. **Board Secretary:** Dr. O. J. Trimborn, 208 E. Wisconsin Ave., Milwaukee 2, Wis.

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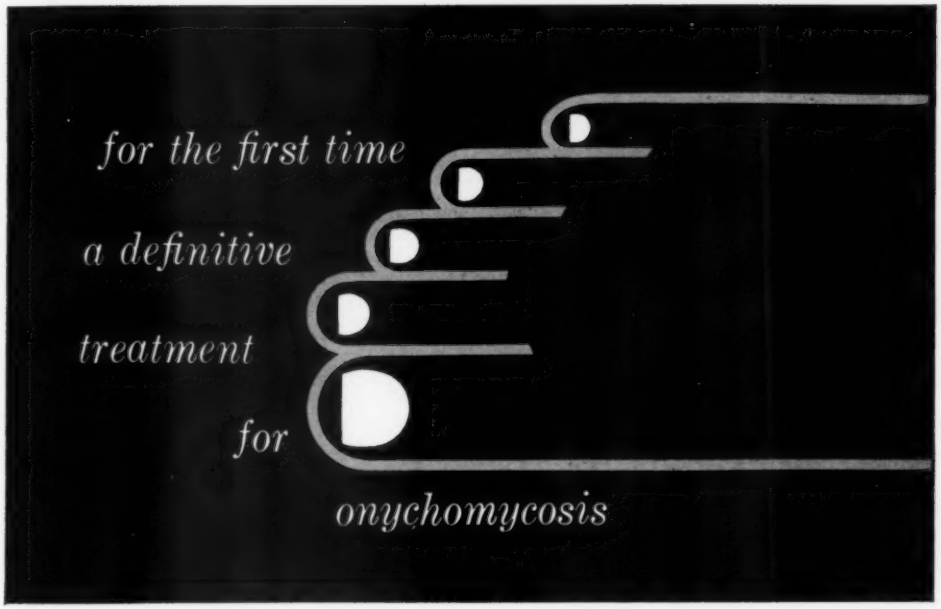


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**This is Article No. 4 in a series of six devoted to foot problems common to children's feet.**

# Pigeon-Toe In T

A common lower extremity problem encountered in childhood is the disorder usually referred to as "pigeon-toe." The child suffering from this condition displays an awkward gait characterized by marked adduction of the feet.

The construction of the ankle and subastragalus joints is such that the foot reaches its maximum degree of adduction when in full extension. Consequently, the deformity is usually exaggerated in running or rapid walking. The child frequently trips himself and falls.

Pigeon-toe may arise from factors present in the foot itself, or may be the result of abnormalities elsewhere in the lower extremity. The causes in the foot include metatarsus varus, evasive factors such as a painful pronation, and tumors or excrescences such as helomata or verrucae. Evasion factors are conditions which cause the child to adduct the foot and place the weight on the foot's outer border for the purpose of avoiding pain. Pigeon-toe may also be secondary to lesions occurring more proximally in the extremity, such as

**Continued on opposite page**

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# In The Child

by A. Rubin, D.S.C.* and John T. Sharp, D.S.C.†

torsional structures adjacent to the hip, such as the tensor fascia lata, or inequality in extremity length. In the last instance, the pigeon-toe is usually present on the short side.

Treatment of pigeon-toe will depend upon the cause. Consequently, the first step in its management is careful examination for the purpose of determining the etiology of the disorder.

Metatarsus varus is a deformity which is apparently on increase in recent years. It has been suggested that the present emphasis on vitamin therapy for the pregnant mother may contribute to this increase, in that such therapy is thought to prevent the foot from going into the more serious full-blown talipes equinovarus deformity, which is on the decrease. Dr. J. H. Kite has suggested that metatarsus varus is actually a part of the talipes equinovarus deformity. Two forms are usually recognized: a severe form with marked forefoot adduction and inversion and fixed valgus of the heel, and a milder form, less rigid, with a lesser degree of forefoot adduction and no fixed heel valgus. The severe type tends to be hereditary, is extremely intractable, and is strongly inclined to recur; the milder type is not hereditary, is fairly easy to correct, and generally does not recur.

The severe forms of metatarsus varus generally respond only to surgical procedures. The milder variety usually is successfully treated by such measures as wedge casting, use of the Dennis-Browne type splint, exercise, and shoe therapy. A common type of shoe used is the reverse last shoe which forces the forefoot into an abducted position.

Pigeon-toe secondary to torsional deformities in the extremity will usually respond to the Dennis-Browne splint in conjunction with proper shoe-wedging. (See illustration.)

Wedges may vary in thickness from 1/8" to 1/4" depending upon the age of the child and severity of the deformity.

In instances where the pigeon-toe is the result of an evasion mechanism, such as painful pronation, elimination of the exciting cause will often result in its correction. Occasionally in the very young child, pigeon-toe will represent a temporary retention of the intrauterine position of the extremity. In uncomplicated cases correction of these forms is often spontaneous.

It is well to remember that in all instances where the pigeon-toe present is associated with internal torsional deformities of the extremity, there must be constant control of sleeping and sitting postures of the child. Attitudes which tend to encourage internal rotation, such as belly-sleeping with the feet adducted, or sitting on the inverted foot, must be prevented if satisfactory results are to be obtained.

Common shoe wedgings are illustrated. Most other wedgings also prove effective, since the limb is toward one extreme of attitude, and postural alterations would of necessity tend towards normalcy. Frequent examinations in the early stages of treatment should be made since individual responses vary.


REFERENCES

(1) Kite, J. H.: Theories on the Increase in the Occurrence of Congenital Metatarsus Varus Deformity. Amer. Acad. Orthoped. Surgeons: Instructional Course Lectures, v. VII, 1950.

(2) Kite, J. H.: Congenital Metatarsus Varus — A Study Based on Four Hundred Cases. Amer. Acad. Orthoped. Surgeons: Instructional Course Lectures, v. VII, 1950.



*Secretary, National Association of Chiropodists, and Editor of its Journal. Formerly Director of the Foot Clinics, and Professor and Chief of Orthopedic Dept., Illinois College of Chiropody and Foot Surgery.

†Professor of Chiropodal Pediatrics, Temple University, School of Chiropody.


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*Koch, R., and Donnell, G.: California Med. 87:313, 1957.

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JOURNAL

OF THE

AMERICAN PODIATRY ASSOCIATION

THE OFFICIAL PUBLICATION OF THE PODIATRY-CHIROPODY PROFESSION

VOLUME 48 OCTOBER, 1958 NUMBER 10

# THE CASE AGAINST THE INDISCRIMINATE USE OF THE MOULDED SHOE*

EDWARD H. BIER, D.S.C., F.A.C.F.O.
Hoboken, N. J.

THOUGH a number of years have passed since the introduction of moulded shoe therapy, the chiropody-podiatry profession has made no pronouncement of acceptance (either full or qualified), or rejection of this mode of therapy. The purpose of this paper is to stimulate a scientific evaluation of this concept of treatment which will lead to better understanding of its value. As the professed guardians of the nation's foot health, it is incumbent upon us to evaluate the theories of those (both within and without our profession) who present the moulded shoe as a panacea.

Two current concepts of mould therapy which lack scientific corroboration but are expounded as the rationale for its existence are:

1. It approaches the ideal environment for the human foot.
2. The buttress, or crest, encourages a grasping action of the toes which is supposedly physiologically correct.

The basis for the first concept is the contention that the foot, when encased in the moulded shoe, is functionally similar to one engaged in negotiating a sandy terrain. Proponents of this thesis carry it one step further by stating that this sandy environment is akin to that encountered by the primitive foot. The inference follows that if walking in a moulded shoe is like walking on sand, and if walking on sand places the foot in its most natural environment, then the moulded shoe approaches the ideal in footgear. This hypothesis is both misleading and inaccurate.

To accept this thesis is to contend that in his primitive habitat man confines himself to walking on sandy beaches. During the transition from an arboreal to a terrestrial existence, the foot evolved into an organ capable of negotiating many types of terrain. The last encountered, and probably the least frequented, was sand. Paleontological evidence shows that the earliest primates were indigenous to highland or lowland terrain. These were herbivorous organisms who trod the rocky, broken, uneven forest floor and mountain trails. It was only after man became carnivorous that the hunters, in their quest for food, ventured to the sandy beaches. Our contemporary primitives do not confine themselves to walking on sandy beaches any more than they do to walking on the smooth hard surfaces of modern civilization.

*Presented at the Annual Meeting of the American Podiatry Association, August 1958, Washington, D. C.

Despite the evidence to the contrary, let us assume that sand would provide the "natural" walking surface. Locomotion on sand, a yielding surface, necessitates increased activity of both the intrinsic and extrinsic musculature of the foot in an effort to gain stability on an unstable surface. To best accomplish this the mobility of its osseous components should not be restricted. The moulded shoe has a contrasting effect. It is constructed over a static impression and is itself a static environment for the foot which prevents normal physiological movement. Greater restriction of movement can only be accomplished with a plaster of paris cast.[1]

Many theories presented to justify the use of the buttress, or crest, in moulds and moulded shoes are in error. They are predicated on the false assumptions that the toes perform a grasping function similar to that of the fingers of the hand, and, that the body weight is transmitted in an uninterrupted straight line through the foot from the heel to the toes. The foot is not a free, mobile part like the hand. It is a weight-bearing and propelling member. Wood Jones,[2] in condemning this comparison states, "We walk and stand on our feet; it is not often that we hold them supported and so free to perform unrestricted actions of the toes. It is, therefore, useless to describe the actions of the pedal muscles as though the foot were habitually in the position in which it is held when one sits in an armchair with one leg supported on the opposite knee."

It has been asserted[3] that the buttress is used for the following purposes:

1. To stop the forward thrust or gliding of the metatarsals.
2. To act as a pivot for the phalanges of the foot.
3. To act as a wall for the distal phalanges to permit a grip for the thrust to the next fall.

If this sequence of events were to occur, it would be necessary for the body weight to be transmitted in an uninterrupted straight line through the foot from the heel to the toes. This, however, does not occur. In reality the center of transmitted weight is shifted medially to the leverage axis.

Though we can encounter controversy concerning the channels of weight transmission from the rearfoot to the forefoot during locomotion, there is unanimity of opinion concerning the shifting of these stresses toward the leverage axis once they have reached the metatarsals.[4, 5, 6]

In the momentary standing phase, the center of transmitted weight coincides with the axis of balance as body weight is being assumed by the foot. As the leverage phase begins, the heel is lifted from the ground and the weight stresses are directed forward upon the fore part of the foot. At this point the change in course of the center of weight stresses from the axis of balance to the leverage axis is accomplished chiefly by the third, fourth, and fifth metatarsals which lift and redirect the lateral stresses toward the first and second metatarsals. The stresses have now been swung toward the first metatarsal bone so completely that the most important digital effort is performed by the great toe.

"At this stage of the stride the body's center of gravity has become so far advanced that the toes are not seriously involved in the vertical stresses of body weight. Their function is chiefly to impart the final push which carries the weight center beyond its perpendicular position above the opposite foot." [7]

Actual flexion of the toes is absent because the extensor muscles, in pulling the leg forward over the ankle, force the toes into hyperextension. The contraction of the digital flexors serves to stabilize the toes against the supporting surface.

The foregoing is based upon accepted orthopedic principles regarding the physiology of the foot during locomotion. These

facts cannot be reconciled with the asserted purposes for the use of the buttress. To recapitulate:

1. The shift of the weight stresses medially obviates the need for a crest to stop a forward thrust or gliding of the metatarsals.
2. Absence of actual flexion of the toes as they are stabilized against the supporting surface dismisses the necessity of a pivot for the phalanges.
3. Bipedal progression can be defined as a forward displacement of the center of gravity with a resultant fall and the recovery therefrom. Anyone who has observed men in a military formation leaning forward in anticipation of the command to march must realize that the center of gravity is forwardly displaced prior to any digital effort. The recovery from the fall takes place when the heel of the opposite member encounters the ground and it is at this time that the toes give the final impetus to the original step. They play no part in the thrust to the next fall and consequently do not require a wall upon which to grip to aid in this nonexistent function. Let us remember that the propulsive effort of the toes is accomplished chiefly by the hallux (an area in which no crest is found), it is minimal and primarily for the final elastic impetus which induces smoothness and grace to the walk.

Two additional points to be considered before proceeding to the possible ill effects of the moulded shoe are:

1. The distribution of the fatty padding on the plantar surface of the foot.
2. The shape of the terminal phalanges of the toes.

The fatty padding present under the calcaneous, metatarsal heads, and inferior surfaces of the distal phalanges acts as a protective cushion during stance and locomotion. To accept the theories justifying the use of the buttress is to deny the physiological reasoning for this distribution. The static position of the toes in a "hammered" attitude, when encased in the moulded shoe, brings the distal portions into contact with the supporting surface. Since nature has not provided the protection of a fatty cushion in this area, we may assume this position is abnormal.

For our purposes it will suffice to confine our description of the terminal phalanges to a brief comparison of the inferior surface and the distal border. The inferior surface extends from its border with the articular base to its border with the distal end of the bone. It presents the maximum area necessary to best carry out its stabilizing function. The distal border is converse in that it presents an extremely narrow superior-inferior measurement and extends only from the medial to the lateral border of the head of the bone.

### Possible Ill Effects of the Moulded Shoe

The principal argument of the moulded shoe advocates is that this form of therapy works. X-ray therapy was advocated for a number of years as a treatment for verruca. In many cases it was successful but, in others there was the dire consequence of an X-ray dermatitis. In a like manner there is logical evidence that prolonged wearing of the moulded shoe could produce ill effects.

By restricting normal motion, and imposing the function of weight bearing on its entire plantar surface, this type of footgear induces changes in the function and form of the foot's osseous and muscular components in compliance to Wolff's and Davis' laws. The ligaments and muscles no longer perform their supportive duties and there is a concomitant weakening and atrophy of these structures. Non-weight bearing areas are now called upon to perform this function and weight bearing areas are relieved of a corresponding portion of these weight stresses.

It would be a grave error to underestimate the importance of the intrinsic musculature of the foot. The question of whether or not these muscles actually do perform a function in foot dynamics was best answered by Wood Jones[8] who states, "The little intrinsic muscles of the foot must not be despised or considered as degenerate or rudimentary because they do not perform the precise little actions that are effected by their homologues in the hand. The effects that they produce may not be spectacular, or even visible, but nevertheless they are of the greatest functional importance. They may not be safely disregarded by those who would deal with the common disabilities of the human foot."

Increased inactivity is evidenced by a greater frequency of fibrositis, muscle atrophy, weakness, and spasm induced by the following vicious cycle:

1. Decrease in function leads to decreased local metabolism.
2. Decreased local metabolism leads to a decreased blood vascular supply.
3. Decreased blood vascular supply leads to local hypoxemia.
4. Prolonged local hypoxemia leads to reversion of specialized tissue to the more primitive white fibrous tissue which requires less oxygen. (Replacement fibrosis.)
5. This reversion leads to fibrositis.
6. Fibrositis leads to decrease in function.

The undesirable effects described above are, by nature, insidious and may not be immediately apparent. There must be taken into consideration certain "conditioning" factors as may pre-exist:

(a) Degenerative vascular changes
(b) Predisposition towards arthritic processes
(c) Occupation
(d) Amount of activity
(e) Weight, etc.

When these combine with, or are superimposed upon, the changes taking place due to this artificial environment, the patient's individual capacity for abuse will be exceeded more rapidly.

This is exemplified by the patients who become "addicted" to the moulded shoe. Their complaints of pain upon resumption of the use of conventional footgear is due to the inability of the muscles and ligaments to immediately perform their previous functions. Acute fibrositis results from overuse of these muscles, as in prolonged and strenuous exertion by a person not accustomed to it. If, because of the pain and aching, the patient further limits the muscular activity by a return to the moulded shoe, muscle atrophy increases so that, in addition to the aching and stiffness, easy fatigue, decreasing strength, limited motion, and instability ensue.

Another logical sequellae to the fibroplastic processes, especially related to geriatric patients, would be local changes in the pH of the blood. A sluggish or stagnant circulation in the lower extremities would effect a shift in the pH toward the acid side due to the accumulation of waste products. This local acidification facilitates the withdrawal of calcium salts, thus weakening the osseous components and rendering them more liable to injury. The truth of this can be seen in elderly bedridden patients whose bones have a tendency to fracture quite easily. These changes in the pH of the blood were discussed in a recent series of papers appearing in the Journal of the American Medical Association.[9, 10]

Limitation of time enforces brevity in the discussion of the ill effects of the buttress. This device maintains the toes in a constant state of flexion; a position recognized as abnormal and classified as "hammer toes." This position imposes abnormal duties of weight bearing and stress upon the distal ends of the toes during stance

and locomotion. There is a dorsi-flexion of the proximal phalanges which forces the metatarsal heads into a depressed position. As a result, they can no longer perform the function of lifting and redirecting the weight stresses medially toward the leverage axis. Consequently, these stresses are directed forward. This factor, plus the restricted motion in the remainder of the foot, induces an inelastic (moulded shoe) gait. This gait must produce its effects upon the remainder of the musculoskeletal system.

### Summary

As previously stated, it is the purpose of this paper to stimulate a scientific evaluation of moulded shoe therapy. Valid instances for the use of the moulded shoe do occur. Certainly it is an accommodative device in cases where gross deformity of the foot exists, but it is not the purpose of this paper to explore the virtues of this type of footgear. Instead, the "case" has been presented by a review of basic anatomic and physiologic concepts which repudiate current theories concerning the use of the moulded shoe and buttress. Possible ill effects of prolonged use of this type of footgear have been explored. Our profession has been made aware of addiction to this shoe and the inelastic "moulded shoe" gait.

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## COMPENSATORY BALANCING OF FOOTGEAR TO ALTER WEIGHT TRANSMISSION*

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Shoe correction and compensatory balancing are accomplished by alteration of the direction of the thrust and equalization of pressures by adding to, or building on to, the under-surface of the shoe. Basic "corrections" are attained through use of the Mayo bar, anterior heel, wedge, extension, orthopedic heel and functional bars such as the Comma bar, Hauser bar, and Lewin bar. These corrections form the basis for therapy, but the effectiveness in each case depends upon correct diagnosis of the disorder, and application of basic principles according to the degree of disability. Intelligent use of these specific shoe corrections has been a successful approach to many problems requiring therapeutic solution.

After the foot problem has been analyzed as one that can be improved or alleviated through shoe correction therapy, the next major step is proper selection and fitting of shoes for the purpose. Carefully selected shoes for a specific purpose should be fitted according to the specifications of the doctor, not according to the judgment of the shoe salesman.

Shoes may be classified as (1) service shoes, (2) intermediate shoes, and (3) dress shoes. Each type of shoe should be

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restricted to a specific use. Shoes of one class should never be expected to do double duty, that is, in two or more classes.

Service shoes, or work shoes, are worn for the greatest number of hours in a day, and therefore are of primary importance in maintenance of foot health. These are the shoes on which corrections should be fitted to balance incorrect weight distribution and postural defects, in order to develop normal functioning of the lower extremities. A service shoe must be (a) an oxford (5 to 6 eyelet), (b) have flat heel (8/8″), (c) and leather sole, (d) of welt construction, and (e) of good quality. Flat heels which conform to the natural anatomical posture give the most stable balance, and provide the greatest area for weight bearing. The footgear must provide stability, regardless of the type of therapy used.

Intermediate shoes, so called because they are worn for special occasions, but only for a few hours in a single day, serve a psychological purpose for the patient in some cases, and can probably do no great harm if they are carefully chosen and if the patient and the doctor agree on careful restrictions as to wearing time. The requirements of intermediate shoes include the following:

For women, (1) a medium heel (12/8″ to 16/8″), (2) serviceable soles, medium weight (6 to 8 iron), (3) a style suited to the individual foot, (4) strap, (5) a high riding pump, or (6) a spectator pump. For men, casual shoes may be (1) Lo-boy (2 eyelet), or (2) gentleman loafer, or (3) possibly a crepe or composition sole sport shoe.

The third shoe class, the dress shoe, is of little importance for study, as there is no therapeutic value to be attained from its use. Probably the chief service the doctor can render to a patient concerning this type of shoe is to caution him not to wear high-style dress shoes at all, and certainly not when he expects his feet to support his body in an erect position for any length of time. Shoes of this class should be considered as "sitting shoes," not walking or standing shoes. Effective results from shoe therapy are obtained only when the patient follows the doctor's instructions regarding footgear that may be worn alternately with the corrected shoes. Through leniency, a doctor may jeopardize his entire therapeutic program, and the patient's welfare.

Shoes for children are in a separate category. They are substantially standard in type, the primary variation being in quality. Boys' shoes may present a problem, but the official Boy Scout shoe seems to fill the need in many instances. For girls, the official Girl Scout oxford, or a shoe of that type, is acceptable for therapy. The fitting of children's shoes is of prime importance. For therapy, shoes must be fitted large enough to allow for normal and induced changes in the foot during the life of the shoe. When corrected, the act of walking in the shoes automatically provides muscular activity; this is evident to the trained eye in determining the altered thrust induced by the corrections. When shoes are originally fitted to have corrections put on them as a therapeutic measure, they are fitted large enough so they give no support. To the casual observer, the child may seem to be almost awkward in such a new pair of shoes.

After the shoe selection is established, and the diagnosis arrived at, the problem then becomes that of finding the most suitable correction for the disability. Metatarsal disturbances are the most common problems, from mild degree to severe. The most successful correction in a majority of these cases is the Mayo bar. Moreover, for those who care, it is also the least evident on the shoes. The crescent shaped leather on the sole of the shoe is placed directly behind the metatarsal head. This

may be used on any heel height; however, the proper medium is the service shoe, and not the dress shoe. Isolated reports

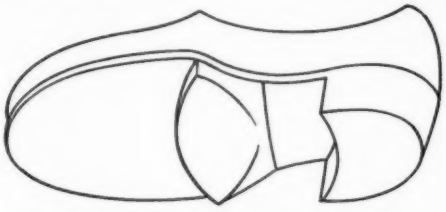

Fig. 1. Mayo Bar or Mayo Crescent—Single thickness of 12-iron sole leather placed behind metatarsal heads with ¼" elevation. Posterior of bar is "contoured" into the shank. Used on lighter shoes and lightweight individuals.

of quasi-successful dress shoe therapy with this correction have been made, but the solid results obtained by successful practices are not from use of palliative measures of this type.

The anterior heel or platform bar is used in cases requiring more severe measures than the Mayo bar. Usually the heel should be 8/8" to 12/8"; the bar should be of sufficient height so that the posterior portion of the inferior surface is on the same plane as the tread area of the shoe. This platform should extend back into the shank. Heavy persons, men and women, attain the most efficiency from this correction.

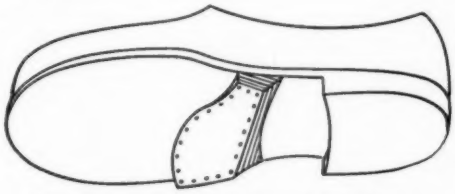

Fig. 2. Lewin Bar—Anterior heel cut out behind the 5th metatarsal head. The lateral and posterior edges of bar 1/16" higher than heel.

The Lewin crescent is highly effective in severe or chronic pressure on the 5th head. The bar is cut out for the 5th head, with the lateral posterior ⅛" higher than the medial. Equalization of pressure for the metatarsal heads is maintained with these corrections, and acts as the equivalent of a static appliance when it is unlikely that changes can be effected. Wedges are also a static balance and are used to raise the sole or heel, or both, when there is an abnormal thrust to either side. Lateral wedges on the sole are seldom used alone to overcome the over-riding of the shoe on the lateral side. When used alone, they cause a medial downward thrust at the talonavicular articulation. Compensation on the medial side, provided in the form of a wedge in the heel or an appliance in the shoe, is necessary to counteract this thrust.

Shoes with factory equipped orthopedic heels are not efficient for shoe therapy because, (1) the heels are too small in proportion to the foot, and the area of weight transmission is not adequate; (2) the pitch of the transverse plane of the surface to which the heel is attached is not taken into consideration in most cases. If a pitch is incorporated, it will be standard and thus lack the variations necessary for individual cases. An orthopedic heel should be ¾" larger on the medial side, and the angle pitch may vary from 1/16" to 6/16".

The comma bar, with variations, is really a functional bar, crescent shaped at the anterior and extending back along the shank in the shape of a comma. The standard elections are ⅛" at the medial side and ¼" at the lateral side; the posterior of the bar is level with the lateral border of the heel. This bar does not extend across the sole completely, but ends at the 4th metatarsal, leaving the 5th free. The tail of the comma extends posteriorly along the shaft of the 2nd, 3rd, and 4th matatarsals. The comma bar is used only with the orthopedic heel, and always on a flat heeled shoe; it is strictly functional in nature. The thrust starts at the pos-

terior lateral border of the heel, is carried forward and medialward to the tip. There the thrust is lateralward to the 4th and 5th metatarsal heads, where it again is

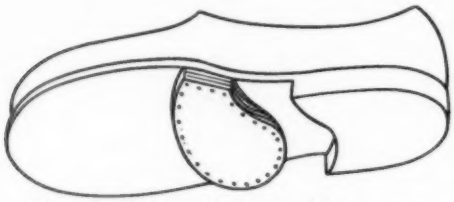

Fig. 3. Orthopedic heel with comma bar—Anterior edge of bar placed posterior to first 4 metatarsal heads. Lateral edge of bar is ¼", medial edge ⅛".

rotated medialward to the first head, then forward through the great toe. Through these angles of thrust a torsion is developed through the tarsus with spring action to the metatarsals and digits. The result of this correction will be discouraging when used on patients in sedentary occupations. Shoes so corrected are termed "exercise shoes," since a muscular function is created by the changed thrust. It is most important that the shoes be fitted large enough to allow such activity.

Doctors, children and parents find corrective balancing of shoes for children most rewarding. Changes in postural gaits are easily assimilated by children, and rather phenomenal returns to normalcy in balance and posture are frequently obtained through use of proper shoe corrections.

The most common childhood foot condition requiring shoe therapy is a pes planus, with the characteristic instability, awkwardness, forefoot abduction or compensating adduction, with or without the pain syndrome, and the evident knock-knee. The second most common foot problem requiring shoe therapy is forefoot adduction (pigeon-toe), bilateral or unilateral. The third is the tiptoe gait—shortening or pseudo shortening of calf muscles and tendons.

In children's shoes, the combination basic corrections for pes planus are: (1) A wedge in the heel or an orthopedic heel to straighten the calcaneus (de-rotate), with the thrust upward and lateralward; (2) a comma bar with the thrust reversed toward the medial, with the thrust continued out to the great toe in completion of the step. The comma bar is used in preference to the lateral wedge to restore the lift or spring in the walk and to destroy the characteristic gait.

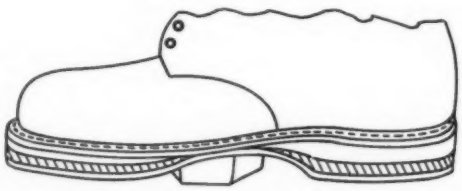

Fig. 4. Wedging for pigeon toes — Rotation wedging. Medial heel wedge ⅛"-comma bar, posterior border elevated ⅛" higher than heel. Anterior medial wedge across tip of shoe. Medial heel and toe wedges hatched.

Pigeon toes, or forefoot abduction, may be a compensation for a weak foot condition and when such is the case the procedure used in pes planus is adequate. However, a true metatarsus varus requires more vigorous measures with greater pressures and thrusts instituted: (1) The heel is wedged from ⅛" to 3/16" on the medial side; (2) a comma bar with ¼" to ⅜" elevation at the lateral edge and a ⅛" elevation at the medial edge produces severe upward thrust to the lesser metatarsals and toward the great toe; (3) a pigeon toe wedge is then used in the anterior medial one-fourth of the shoe, ¼" in thickness, to produce a thrust line toward the lesser toes and forward through the anterior of the shoe.

In the tiptoe gait, where children walk on the balls of their feet for no apparent reason, the problem may be the result of

combined factors, but in most instances it is an acquired habit. The purpose of the correction should be to cause the patient to bring the heel down first. Customary procedures include use of the

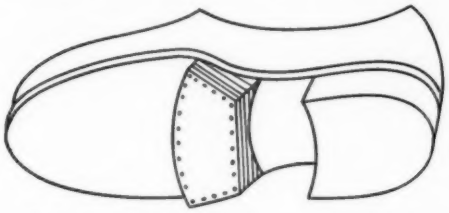

Fig. 5. Anterior heel — A crescent-shaped bar placed posterior to the metatarsal heads ¼" elevation. Posterior of the bar extends into the shank and is built up level with the heel.

following therapy: (1) Use of an anterior heel to act as a reverse rocker; (2) stiffening of the sole by adding a top half sole to remove the flexion of the sole and force the downward pressure at the heel. The combined action of the stiff sole and the reverse action of the anterior rocker acts as a force to bring the heel down. A true pathological shortening of the muscle groups will not respond to this therapy.

Correction of foot conditions through shoe therapy may on occasion produce rather dramatic results, but for the most part, this corrective treatment, in line with other curative procedures, produces a slow return to normalcy. As the treatment progresses, the angles are increased until the desired position is attained. While therapy may justifiably be the same for several patients, the time required to secure results may vary from individual to individual. Recognition of individual differences is essential in successful application of shoe therapy.

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## FOOT INDICES*
### Heel-to-Ball and Ball-to-Toe Measurements

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THE practitioner of podiatry is frequently presented with a problem in shoe fitting for which there is no apparent solution. The length (and width) of the foot measures to a certain size, and yet with the particular foot placed in this shoe, the ball of the foot is situated anterior to the ball (break) of the shoe. No matter how the length of the shoe is increased, short of falling from the foot, this situation exists. Another problem in the same category is that there is too much room in the toe area of the shoe so that the tip of the shoe "curls."

Here there is an obvious discrepancy between the measurements of the foot and the measurements of the shoe. The measurements upon which the last is made are standard, the foot measurements less than so. There appears to be a difference in the heel-to-ball (HB) and the ball-to-toe (BT) measurements in their relation in the foot as well as in their relation to the shoe. There are no statistics (available to the writer) which indicate what these relationships are, or what they should be, nor the relationships between the two, nor whether these relationships have been adequately considered in the measurements of lasts for shoes, nor whether these lasts have been changed based on changing relationships between the HB and BT measurements. Such changes in ratio or relationship might

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necessitate similar changes in the last measurements. It is known that the foot of the human has increased in length. The question is has the foot grown in its *total* length with the HB and BT measurements remaining in the same ratio, or has either one or the other increased in relation? It becomes obvious that such statistics are necessary in order to be able to make such determinations in the future.

This paper endeavors to present statistics based upon the feet of 85 adult individuals through the use of anthropometry. By this means, it is possible to convey a fairly exact idea of the proportion which one measurement bears to another, and thus something of the linear form of the structure concerned, in a single numerical expression.

Numerous methods are used to throw light on the significant likenesses, as well as the differences existing among individuals and groups of men. A fundamental rule is that only those parts should be measured which are capable of throwing any light on the problem. The problem presented here is to determine differences between the HB and BT measurements as they relate to each other. Since our problem also includes the fit of the foot in the shoe, and since this is principally a weightbearing problem, all measurements recorded were made upon full weightbearing.

For all measurements to be comparable, certain definite points were used as landmarks; the back of the heel, the tip of the longest toe, and the lateral side of the center of the head of the first metatarsal.

An index, as used in anthropometry, is the ratio of a smaller to a larger measurement taken as equivalent to 100, expressed in percentage. Thus, to determine the proportional relation of the heel-to-ball measurement to the ball-to-toe measurement, the HB length is equated to the value of 100 and the BT is then expressed as a ratio of 100. Thus; BT:HT: :X:100. The value of X is found by multiplying the actual value of the BT measurement by 100 and dividing it by the HB measurement. Thus; $\frac{BT \times 100}{HB}$ equals the (HB-BT) Index.

An HB-BT Index of 33.3 indicates that the BT is to the HB as 33.3 is to 100, or that the BT is equal to ⅓ of the HB. An index greater than 33.3 would indicate that the BT was larger in relation to the opposite. An index of 50 would indicate that the BT is exactly ½ the HB.

**TABLE I**

**Indices to 24 Males**

| | Right Foot | | Left Foot | |
|---|---|---|---|---|
| Indices | No. | % | No. | % |
| 25 - 30 | 0 | 0 | 0 | 0 |
| 31 - 35 | 4 | 16 | 4 | 16 |
| 36 - 40 | 11 | 50 | 11 | 50 |
| 41 - 45 | 9 | 37 | 9 | 37 |

In the male (See Table I), the percentage of indices remains the same in each group for the right and left foot. The majority appear between 36 - 40 with a good percentage between 41 - 45. The average HB-BT index for the male in this series may be fixed at 40.

**TABLE II**

**Indices to 61 Females**

| | Right Foot | | Left Foot | |
|---|---|---|---|---|
| Indices | No. | % | No. | % |
| 25 - 30 | 1 | — | 2 | — |
| 31 - 35 | 6 | 16 | 6 | 16 |
| 36 - 40 | 29 | 50 | 26 | 42 |
| 41 - 45 | 23 | 38 | 21 | 42 |
| 46 - 50 | 2 | — | 4 | 8 |
| 51 - 55 | — | — | 2 | — |

In the female (See Table II), the percentage of indices between 31 - 35 is similar to the male. In the higher indices there is a difference between the right and left feet; the right is similar to that of the male whereas the left differs markedly. Further there appears in the female of percentage of cases where the HB-BT indices run between 46 - 55. No male cases with indices this high are noted.

There is an 8% increase in the right foot between 36 - 40 and a decrease of 4% in the right foot between 41 - 45.

The average HB-BT index for females in this series may be fixed at 40.

### Conclusions

Very few feet are similar in their measurements insofar as length of the foot; HB and BT measurement, nor are the right and left foot in this respect also similar.

The HB-BT index of the feet in this series, both male and female, is 40.

In females there is a difference in the indices as groups between the right and the left foot; in the male the indices remain the same.

It is apparent that further research on this subject is necessary. Examination of many more feet must be made to determine the validity of the indices determined above. Determination of the relation of these measurements and indices to shoe size and to the measurements used in last making and last designing. If the indices of the foot are not considered in the lasting and the fitting of the shoe, then it is evident that the foot, right and left, must be made to fit the shoe, as it so frequently does or tries to do, rather than the shoe fitting the foot.

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## SOME COMMENTS ON THE DEFINITION OF PES PLANUS AND SHOE FLARE*

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A SERIOUS problem in any intelligent discussion of the problems of children's feet and the application of shoes for these problems is the inadequate definition of some of the commoner terms used. Very frequently when reading a paper or text, we are not certain what the author means in using certain terms until after it has been read, and many times not even then.

One of the terms used either too broadly or inaccurately is pes planus. Another term defined in at least two ways that are not reconcilable is "flare." This paper is suggesting some definitions which may provide a better basis for common understanding of these terms.

The term pes planus is overworked by the chiropodist-podiatrist, and the general and other practitioners of medicine. It is almost a universal term denoting any involvement of the tarsus and the metatarsus. Add to that the confusing modifiers of degree I, II or III and many become so engrossed in attempting to diagnose a "degree" that the general evaluation of the condition is lost.

A common method of designating "arch" deviations is strained foot, weak foot and flattened foot. These terms are far too general and their connotations are much too broad to be considered accurate terms of diagnosis in podopediatrics. The basis of classification for these longitudinal deformities and weaknesses seem to be related to severity of deformity rather than a specific morphological bone and joint relationship. For example, basic orthopedic textbooks refer to "flattened foot" as an acquired flatfoot. Its symptomatology ranges from the foot with just longitudinal depression without any further foot malalignment, to the foot that exhibits rearfoot medial rotation and forefoot valgus. The practitioner should have some consistent terminology to differentiate these two extreme foot types. Each presents a different

* From an Award Paper, 1957 Drew Awards on the application of shoes to foot problems.

problem, functional pattern and therapeutic approach. Pes planus, which refers to the above three terms collectively, can have not only etiologies of acquired nature, but also of congenital or hereditary origin. Texts also refer to pes planus III or flattened foot as having the synonym of "acquired flatfoot."

May I suggest that we establish a nomenclatural understanding of at least two of the common childhood problems on physical and functional bone and joint relationships. Let us differentiate pes planus and pes valgo-planus since they are far apart as to appearance, pathology and therapeutic consideration.

**Pes planus,** from a gross point of view, may be considered as an abnormal structural or functional deviation of the forefoot from the rearfoot, without rearfoot medial rotation on its long axis. More specifically, it is a condition wherein, on weight bearing, the heads of the metatarsals move away from the calcaneus, thus permitting the forepart of the tarsus and the metatarsus to "fall" or "drop." This results in the depression of the longitudinal arch and the hyperextension of the plantar ligaments and tendons with muscular changes. There is no medial rotation of the heel nor is any adduction or abduction of the forefoot evident. In this deviation there is depression of the bases of the first to fourth metatarsals, the cuneiforms and the anterior portion of the navicular. Pes planus, following this morphological description, must be carefully analyzed clinically as many such structural cases are functionally normal in some races. The shoe of the child with pes planus, depending on the severity, will present a broken shank, wear on the anterior portion of the heel and outwardly bulged medial and lateral counters.

**Pes valgo-planus** is characterized by a medial roll of the calcaneus with the subsequent lowering of the sustentacular shelf on weight bearing. The talus, which articulates with the superior surface of the calcaneus and the shelf, tends to slide in a downward and inward direction until stopped by ligaments and tendons. The navicular, immediately in front of it, is also carried in a downward and medial direction so that often its medial surface appears as a "secondary ankle."

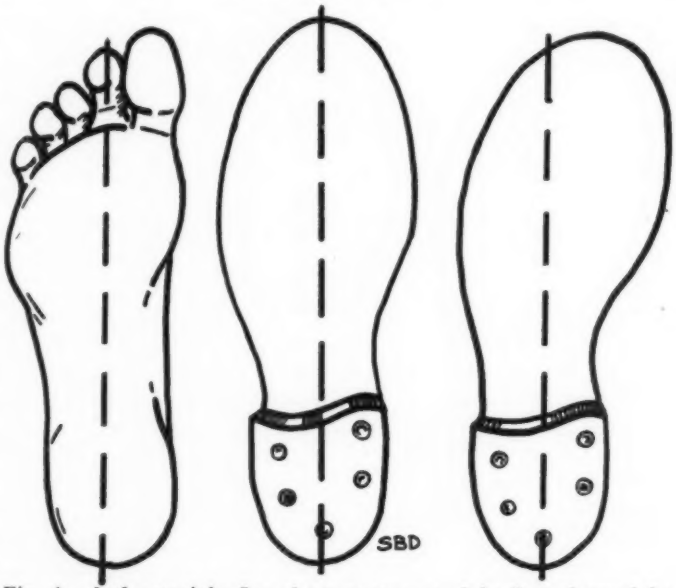


Fig. 1. Left—straight flare foot; center—straight flare shoe; right—inflare shoe.

As this downward and medial collapse occurs, great strain is placed upon the cuneonavicular ligaments and a forefoot torsion begins at this point. The flexible forefoot is forced into a valgus position

by the body weight during locomotion. With this valgus positioning of the forefoot there is established a downward depression and medial rotation of the first four metatarsals. Great stresses are applied to the first, second and third shafts (which often accounts for the plantar callous at heads of these bones in adults). In the muscles flaccidity and atrophy may be seen in the anterior leg group as well as the tibialis posterior. The peroneals may appear spastic and limited in range.

The shoe of this child shows marked lateral heel wear if he has assumed a very toed-out gait or a posterior center heel wear to a medial heel wear if the gait pattern is fairly straight. The medial counter is nearly always bulged out with the shoe upper sometimes off the sole at the medial side. The rear part of the outside heel counter may be pushed out by the child's heel rolling inward with the outer counter, yielding to the demand for rolling space. The front of the shank bar may be seen protruding through the sole. The greatest sole wear will appear under the great toe joint.

### Foot and Shoe Flares

Most children present what we may call a straight flared foot. By that we mean if we lay a straight edge on the bottom of the foot, bisecting the heel, we find that the line passes through the center of the ball of the foot and emerges in the second toe or at the interspace between the second and third toe (Fig. 1). This pattern is defined by the anatomist as a proper relationship of the forefoot to the rearfoot. This pattern changes in pes valgo-planus to one extreme and in pes cavus with forefoot varus to the other.

Unfortunately, too many do not fully understand shoe-flare classification. Two methods are used to determine shoe flare. One follows the anatomical pattern described in the foregoing paragraph. The second, described below, is a system that has long been in use and is generally misunderstood by both doctor and shoe fitter. I personally prefer the former as it appears to follow anatomical relationships. Since the majority of children possess a straight flared foot, a straight flared shoe should be worn on the normal foot. This shoe presents such a pattern that when a straight

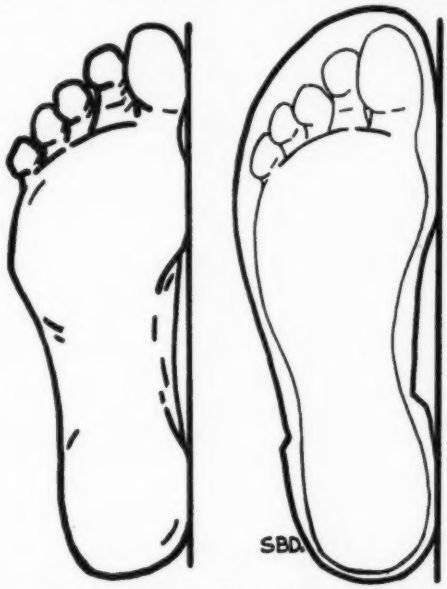


Fig. 2. Determination of flare of foot of shoe by "medial border line."

edge is laid upon the heel, bisecting it, and the shank of the shoe, the line will pass through the center of the sole ball area and come off the shoe at the area where the second or third toes rest. The inflared shoe will have that line break over the shoe end where the fourth and fifth toes rest. The outflare shoe will have a line break over the great toe area. Few outflared shoes are manufactured (Fig. 1).

The straight flared shoe as defined by the other system, according to Schuster,[1] is determined by drawing a line over the foot or shoe pattern starting at the end and

side of the great toe, passing the line over the great toe joint and continuing the line backward to touch the inner border of the heel (Fig. 2). If the line is straight, the foot or shoe is of straight flare. This method of determining flare fails if hallux valgus or phalangeal deviations are present. Also in valgo-planus where the heel is deviated medially, an incorrect impression may be received.


### Summary

Some comments have been made on two sets of terms, pes planus and pes valgo-planus, and foot and shoe flare. It is hoped that this presentation will lead to wider acceptance of the frames of references suggested in order that communications in the foot-shoe sphere will be easier.



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## THE ROLE OF THE MEDICAL PROFESSIONS AND THE SHOE INDUSTRY IN AMERICA'S "YOUTH FOOT-HEALTH FITNESS" PROGRAM*


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THE purpose of this meeting is to seek ways to improve the foot health status of our American youth—the 51 million young people of our nation under 20 years of age.

However, in my own studied opinion, I am not particularly optimistic about the outlook for a more foot-healthy American youth. It isn't a case of whether we can or cannot improve the foot health of American youth. We definitely can, but we haven't made any appreciable progress in this direction to date. I do not believe that the future holds much better hope—so long as we continue to utilize the inadequate tools and methods we have employed in the past and continue to employ today.

Today we have more foot-conscious parents; our shoes are made better, fitted better; we have more podiatrists and foot treatments than ever; we have more attention given to all the factors which presumably lead to a foot-healthier youth. Yet, if we are to accept the findings and statistics, today we have the same percentage and types of foot defectiveness among our youth as we did a generation or two ago. This is a challenging contradiction to any claims of progress in youth foot health. It may even be considered an indictment of the sources, professional and commercial, involved in and responsible for the foot health status of our youth.

### Lack of Standards

The root of the problem—the major obstacle to an improved youth foot health status—is the lack or absence of acceptable, scientific standards by which we can accurately judge foot health or many of our foot ills. What is a "normal" foot, structurally and functionally? What is a "healthy" foot? What standards, and whose standards, can be used and found acceptable? If we have no scientifically acceptable standards for a normal or healthy foot, how can we speak logically of "improving" the level of youth foot health?

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For example, there is the much-publicized statistic that seven of every 10 children are foot-defective. These figures cannot be found acceptable, and are to be challenged. If we have no standards for a structurally and functionally "normal" foot, where do we draw the line between normal and abnormal, healthy and defective? If diagnosis is reduced to a matter of experience and personal judgment, then the study and practice of matters concerned with foot health must be classified more as an art than a science. And as an "art"—due to lack of scientific standards—it means that every individual is free to interpret foot health matters as he wishes.

That, unfortunately, is what has taken place, and what continues to take place. Every podiatrist, orthopedic surgeon, physician, shoe retailer or manufacturer or fitter, athletic trainer, etc., has his own "individualized" approach to foot health, the diagnosis of foot ills, and the prescription of footwear. I quote from a recently published article, based upon an investigation of foot disorders and their treatment: "A sound concept or theory of foot care has yet to be developed. The medical literature on foot disorders and shoe design abounds in controversy and speculation."

Let me cite a few instances illustrating this lack of adequate standards on foot health matters—resulting in inevitable controversy, speculation and widely diversified opinions. We speak of first, second and third degree weak foot. But where is the line of demarcation between first and second, and second and third?

Some children toe in, others toe out, while still others walk with toes straight ahead. Is there a "norm" to toe angulation? And if so, what is it? And is there a "normal" toe angulation for some children, and another "normal" for others? And if so, which children belong to which group, and why? The debate on this is generations old—and we are still without scientifically established answers. That is, without standards.

At what rate should, or does, a child's foot grow? Does the female foot grow faster than the male foot? If so, why? What is the foot-growth rate in certain age groups? There is much discussion on this—even published "statistics"—yet not a fragment of scientifically established fact based on any thorough investigation.

In children of the same age, or having the same size foot, how much does the foot extend or stretch on weightbearing, and how much does it expand or widen on weight bearing? And if there are differences among children of the same group, why?

How do we go about testing or establishing the "health status" of a child's feet? If we are to make comparisons in the foot health status of American and European children, what scientific standards could be used to establish these comparisons?

We speak of "inherited" or congenital foot features, and acquired features. Yet really, how much do we know about either in acceptable scientific terms?

In the field of footwear, the babel of opinion and speculation regarding foot health matters is just as rampant and inconclusive. The controversy regarding the merits or demerits of children's high versus low shoes continues, without anyone having troubled to establish acceptable findings based upon scientific investigation. The same applies to rigid or semi-rigid soles versus the flexible sole.

Incidentally, the medical groups, along with the shoe industry, plus the public, talk about "flexibility" in footwear as a desirable feature. But what is a "flexible" shoe—or a "flexible" sole? The deceptively simple question defies a positive or fact-established answer, because the question is the same as "how high is up?" It is possible that flexibility beyond a certain

point may be damaging to the foot. It is possible that certain degrees of flexibility are required by some feet, and other degrees by other feet. But why all this matter-of-fact discussion about shoe flexibility when there are no established facts regarding shoe flexibility?

Shoemen and professional groups speak glibly about "proper gait." But what is a "proper gait"? Is there such a thing as a gait "proper" or "normal" for all? Or may gait differ with individuals, yet be "proper" despite the differences? And if there are "normal" differences, what are they?

We repeat: these are but a few examples of the speculative and inconclusive issues buffeted and re-buffeted within professional, commercial and lay circles. Yet, if we are to discuss or move toward improvements in "youth foot-health fitness" it is these same unresolved issues—this maze of speculation—that must be resolved.

### Influence of Footwear

It is impossible to discuss youth foot-health fitness without discussing the role of footwear. In fact, no other single or even several factors play as important a role as footwear in the field of foot health or foot ills. Yet, paradoxically, the professions concerned with foot health have either underestimated or evaded recognition of the importance of footwear in foot health. The same, in fact, may be said of the footwear industry itself.

One example illustrates this graphically. In countries or areas where the youth population habitually does not wear shoes, the incidence of foot ills is extremely rare, reported to be below three per cent—and for adults below seven per cent. In countries where shoes are habitually worn, the incidence of foot ills as indicated by our survey-based "statistics," runs from 50 to 75 per cent among the juvenile groups.

Does this mean shoes are to "blame" for most of our foot ills? No. The right shoe for the right foot can contribute to foot health. But ill-designed shoes, or ill-fitted shoes, or shoes which continue to be worn after being outgrown or distorted with wear, or wrongly-prescribed shoes, or wrongly used shoes, or shoes improperly selected by the customer—all of these can lead to foot ills, but more frequently through "human failure" rather than shoe failure.

A pair of shoes is a masterpiece of art and engineering. It is an amazing structure—yet is little understood, and perhaps even less appreciated, by the majority of medical practitioners as well as the public. It requires nearly 200 separate operations to make a children's good-quality basic shoe. Over the course of a day an active child will take about 30,000 running and walking steps—the equivalent of about 12 miles in distance. That amounts to 84 miles a week, 360 miles a month. A pair of shoes, which may cost from $5 to $8, will last about two months, during which time the child has travelled a distance of about 720 miles, or from Boston to Cleveland.

An active child weighing 90 pounds will bear a total weight of 1,350 *tons a day* on his shoes. That isn't dead weight but *pounding* weight, which involves far greater stresses and strains on the shoe. Over the course of a week the shoes' weightbearing load adds up to 9,500 tons, and over a month, more than 40,000 tons. If the shoes last for two months of steady wear, they have borne a total weight load of 91,000 tons, more than the combined weight of two modern battleships.

This may give some small indication of the marvel of engineering represented by an ordinary pair of children's shoes. Considering that 60 percent of all juvenile shoes sell for under $5 a pair, and 91 percent sell for under $7, a pair of shoes obviously delivers a tremendous amount

of performance value for an amazingly low cost.

The nation's children consume 136 million pairs of shoes a year. Over the year, those shoes will carry our 54 million children a distance of over 200 *billion* miles. Those same 136 million pairs of shoes will bear a total pounding weight of 27 *trillion* tons. And while giving this kind of performance, these shoes are also required to fit well, look well, and be an asset to foot health. It is far too easy for the medical professions to often be critical of our footwear—until challenged by some of the amazing facts of shoe performance fulfillment.

If we are to make a contribution to improved youth foot-health fitness, far more attention must be given to juvenile footwear—by doctors and parents alike. It is an astounding but tragic fact that while babies' feet grow rapidly, the average per capita consumption of babies' shoes is only two pairs a year. It appears obvious that a substantial portion of the nation's babies are wearing outgrown shoes—a sorry foot-health start in life for these youngsters.

The average per capita consumption of boys' and youths' shoes (ages 9 to 14) is a mere 1½ pairs a year—grossly short of even minimum needs to allow for healthy foot growth.

A more wholesome picture is seen with shoes for younger boys and girls, and particularly for teen-age and sub-teen-age girls, where per capita consumption of shoes is better than five pairs a year. Fifteen years ago the rate of shoe consumption with this group was only three pairs annually. Hence a decided foot health improvement, by virtue of greater frequency of shoe purchases, seems destined for this group. There is a good likelihood that the next generation of women will have much healthier feet than those of their mothers and grandmothers.

## Shoe Design and Foot Health

Are juvenile shoes correctly designed for best foot health performance? The key to the answer lies in the one word, "correctly." What is a "correct" shoe? As mentioned earlier, if we have no scientifically accepted concepts concerning the "normal" foot, structurally and functionally, if we have no universally established "laws" providing a scientifically acceptable framework for "foot health," how can we talk with authority about "correct" shoes? If we are to have a "correct" shoe, then obviously we must first have an established concept for what is structurally and functionally "normal" or "correct" for the foot to which the shoe is adapted. In short, we must have *scientific standards*—the great missing link in the fields of foot health and footwear alike.

There are two reasons why most of the medical criticisms concerning footwear are unjustified and without foundation. First, as already mentioned, we cannot talk about "correct" shoes unless we have scientifically established standards to work by. For example, a "prescribed" shoe might call for a low heel, a broad toe, and ample length and width in the fitting. Yet this shoe could easily be demonstrated to be "incorrect" in fit. For instance, what about the width of the heel, or the amount of "height" in the toe area, or the length and height of the shank relative to the arch of the foot?

Some doctors insist upon the wearing of oxfords as the "correct" type of shoe, while others favor a sandal type. Some prescribe a soft sole, others a rigid sole. Some insist that the insole be "molded" with contours in conformity with the foot, while others say the insole should be flat like the ground nature intended us to walk on. Some urge barefoot walking for children, while others insist there must be some "support" under the foot. Some advocate a flat heel, while

others claim the flat heel weakens the arch.

If there is no consistency within the medical professions as to what a correct shoe is, then neither the public nor the shoe industry can have much reliance upon the medical viewpoints which are so divergent and conflicting. As a result, the shoe industry designs, and the public selects, the shoes it believes to be the best, and with complete justification under the circumstances.

The second reason why the common medical criticisms about shoes are unjustified is a failure to recognize that fashion or style is a vital reason why people buy and wear shoes. The shoe industry makes and sells 600 million pairs of shoes a year. Only about half of those shoes are purchased for replacement or utility purposes —that is, because the individual *needs* a new pair. The other half are bought and worn because the individual *wants* them —because the purchase of these "extra" pairs is inspired by fashion appeals.

To regard shoes as strictly a utility item, worn solely for their comfort and protective values, is a grave oversight of reality and psychology. Who ever heard of a woman who bought a hat to keep her head warm? Shoes, like most other items of apparel, are related to social and psychological values for the individual. As Mark Twain once remarked, "When I feel depressed, I put on my new suit of clothes and go for a walk. I always return feeling better."

This means that for a shoe to be "correct," it doesn't have to look like a boot to be worn by Whistler's mother on a climb up Mount Everest. Fashion cannot be divorced from the realities of footwear design. So long as we are dealing with human beings, we must live with the "normal" foibles of human beings. The shoe industry does not thrust its shoes upon the public. It does not, by itself, determine which styles shall be designed, made and sold. It makes and sells only those shoes that the public demands. If the public suddenly decided to wear open-toed Army boots, the shoe industry would be delighted to make them. The principle applies to our entire economy, to virtually every product made and sold in the world. No one has yet been able to refute the immutable economic law of supply and demand.

### Where the Shoe Errs

From a foot health standpoint, American-made shoes are made better and fitted better than those to be found anywhere else in the world. The foot, grown up in American-made shoes, has a better health future than feet grown up in shoes made anywhere else in the world. For example, our shoes may be made on as many as 10 different widths to a size. In Europe, by comparison, about 95 percent of all shoes are sold on only one width.

Nevertheless, our shoes, despite their world superiority, have certain shortcomings in terms of foot-health values. And it is in these areas where the opportunity for improving our youth foot-health fitness lies. For example, the design of our lasts —in terms of accurate conformity to the shape and alignment of the foot—is open to challenging questions. The same applies to the last in relation to proper foot function.

For example, there is no answer to the deceptively simple question, "How wide is a 4B shoe across the ball?" There is no answer because the ball width is measured by girth or circumference around the ball, rather than linear distance across the ball. A circumference of, say, eight inches can have countless different shapes—resulting in different measurements across the ball. This again is an example of lack of established scientific standards.

This is one reason why the customer will in a shoe of one style wear a size 6A, in

another a size 6½AA, and in still another a size 5½B. It is also one reason why a specific shoe size should not be prescribed by the doctor, or insisted upon by the customer. Until we adopt standards for last measurements that have more accuracy and consistency, shoe fitting must continue to be a trial-and-error procedure. And this is another very important reason why no child should buy a new pair of shoes without a direct fitting to the foot in the shoe store.

The expression, "find your last and stick to it," is wholly unrealistic when applied to the great majority of shoes made and sold today. Last styles change almost as frequently as shoe styles. In the average case, it becomes extremely difficult to purchase the identical last that was purchased five years ago. This again demonstrates the vital importance of the shoe fitter in the fitting of juvenile shoes. As the foot grows, it moves into new size ranges and styles made over different lasts. It means that a fresh fitting is required with the purchase of every new pair of shoes. Contrary to this fact, there has developed a threatening trend toward more self-service shoe selling and buying, and frequently involving juvenile footwear where self-service can render its most harmful effects.

The subject area of foot health and footwear is filled with deceptively simple but unanswerable questions. Another of these questions is, "When does the shoe fit?" While this is a question challenging enough for the shoe fitter, it is even more challenging to the podiatrist, orthopedic surgeon or physician who, justifiably, make a fetish of "proper fit." Basically, the only two "standards" used are the length and width (across the ball) of the shoe. And even these two gauges lack reliability. For instance, one fitter (or doctor) may prefer a snug fit across the ball, while another prefers a looser fit. The "standard," then, is as variable as the divergence of the many views held by the doctors or fitters.

But so many other important points of measurement which should determine proper fit are missing from the fitting procedure. The length of the shank in conformity with the length of the arch; the width of the shank and arch; the width of the heel; the height of the ball; the tread of the foot; the longitudinal axis or "angle" of the foot; the transverse axis or angle of the ball, etc. A shoe must fit not only the structure or shape of the foot, but must fit so that it permits maximum foot performance efficiency in function. That is, a shoe must be regarded as both a structural and functional item.

If the medical professions are to play a more effective role in improving the foot-health fitness of American youth, one thing is obvious and absolutely essential: the need to know a great deal more about footwear, and its relation to foot health, than is known today. We might add that this same requirement, but in reverse, applies to the shoe industry; that is, the need to know a great deal more about foot structure and function in relation to footwear.

Relative to the tremendous influence of footwear on foot health, there is a shocking dearth of information and interest revealed on both sides—by the shoe industry in regard to the human foot, and by the medical professions in regard to footwear. This absence of authority and leadership is one major reason why the American public is without a positive sense of direction concerning foot health in relation to footwear, and vice versa.

### What Can Be Done

It is obvious that this subject of "youth foot-health fitness" is far more complex and challenging than generally supposed. It is also obvious that before we can proceed to "improve" the status of youth foot-health fitness we must first improve or

change our traditional approaches to such a project.

For one thing, we must supplement the "medical" approach with an *engineering* approach. Most of our serious and chronic foot ills are mechanical in nature. Attempting to solve them with a "medical" approach alone is like trying to eat soup with a fork. It is an unrealistic and impractical approach. Again, a shoe is basically an "engineered" structure. It will not respond to "medical" approaches. Further, the human foot in motion resolves into functional engineering. Thus, if the shoe industry and the medical professions are to improve their chances of improving youth foot health, a fresh approach—that of mechanical engineering—becomes absolutely essential.

On the basis of all the foregoing, I suggest the following steps as a foundation upon which to build a more effective youth foot-health fitness program:

1) The establishment of a Joint Industry-Professional Committee, composed of representative members from shoe manufacturing and shoe retailing, and representative members of medical groups directly involved in the field of foot health. The purpose: to coordinate objectives and projects designed to improve the nation's youth foot-health fitness status.

2) A substantial expansion of foot-health research facilities and programs, and greater financial support of sound and promising research programs currently active. There has probably been no greater single shortcoming in the entire area of foot health than the extreme lack of professional and industrial research. Until the quantity and quality of foot-health research is increased substantially, the hope for genuine improvement in youth foot-health fitness will hold little promise.

3) The establishment of scientifically acceptable standards in regard to foot health, lasts and footwear. This means genuine scientific foundation, concerning the structure and function of the foot; more precise standards concerning diagnosis and treatment of mechanical foot ills; more reliable and consistent standards concerning the design and measurement of shoe lasts, which in turn will lead to more accurate shoe design, shoe sizing and fitting, relative to foot health values.

4) The establishment of a national foot-measurement and "foot-typing" survey covering American youth. For one thing, we cannot presume to design our lasts and fit our shoes in accurate conformity to the shape and function of juvenile feet until we have a scientific system of foot classification by foot types. Without such a system of classification, our efforts and products are simply approximating the necessary adaptations to the structure and function of the foot. And it is just because of these "approximations"—close but not close enough—that many mechanical foot ills arise among our youth.

5) The establishment of better instrumentation, testing equipment and methods to diagnose and chart "foot health" as well as foot ills. While personal experience and judgment are obviously invaluable, the element of human error is far too risky to represent the primary (and often only) approach to foot health and the problems and solutions to foot ills. We simply need a more scientific and precise approach via more scientific instrumentation and methods.

6) The need to challenge and eliminate, where necessary, the many dubious conceptions implanted in the medical, shoe industry and public mind about "facts" concerning foot health. For example, are "foot exercises" anywhere near the value we assume them to be in correcting foot ills? Have we the scientifically established right to be so dogmatic about the value or use of "arch supports," or certain shoe designs, or manners of gait?

7) The establishment of a national educational program—actually public relations—designed to eliminate the many misconceptions and old wives' tales held by the public, concerning foot health matters. It should also be designed to establish more positive voices of authority, leading to a more definite sense of direction and a higher level of professional regard, in the public mind.

Concerning juvenile foot health—just as in our personal lives—the chief problems have resulted not so much from what we have done, but from what we have failed to do. The outlook for tangible improvements in youth foot-health fitness can be excellent—provided we re-align our approaches to the problem, and provided we develop a long-needed program of active cooperation between the shoe industry and the medical professions involved in the areas of juvenile foot health.

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## A NEW THERAPEUTIC APPROACH FOR ACCOMMODATION OF FOOT PATHOLOGY

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THE author wishes to project a theoretical approach to the treatment of common foot disorders amenable to alterations in weight distribution. While the technique and modality described herein are new and fresh, the philosophy and therapeusis of relieving abnormal stress is tried and proven.

The podiatrist has successfully rendered relief from pain through accommodation of objective lesions in the foot. A plantar skin lesion, degenerative joint disease, a bony prominence, a faulty functioning forefoot, gravitational stress and many foot deformities have been relieved of discomfort through adequate shielding, padding and wedging of the part. It has been proven time and again that duplicating our foot therapy through construction of an accommodative or corrective appliance is yet another treatment. Permanent shields of plastic, leather, latex, and felt have served as excellent therapeutic agents for many chronic foot ailments.

It is conceivable that many more approaches will be and are now being used by podiatrists with the basic concept of accommodation. The proper use of a *RIPPLE® soled shoe may very well serve as another therapeutic device. While much work has to be done to evaluate results, I wish to offer the following techniques for consideration in treatment of some foot disorders. Until we substantiate their value with controls, the following technique may provide an answer to the suffering patient.

### Footgear

1. A sturdy leather, rigid shanked, firm or extended counter, straight last shoe is most desirable. This shoe must have a RIPPLE® Sole through which all accommodations are made.

2. The shoe must fit well, allowing for freedom of the forefoot with a snug fit in the arch and heel.

### Diagnostic Techniques

1. A dorso-plantar and lateral radiograph is taken of the foot using a radio-

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*RIPPLE® Sole Corporation.

paque material over the painful excrescence, deformity, or pressure point. (a) Zinc oxide paste, tape or other metallic substances may be used for this purpose. (b) Metal washers as described by Sansone are very effective. 2. A radiograph is then taken of the foot in the RIPPLE® soled shoe. 3. The radiopaque material will show on the radiograph underlying one or more flexible ribs in the sole. Thus the site of the painful lesion is localized and easily accommodated.

Fig. 1-A—Removal of RIPPLE® under 3rd metatarsal head and at spur site medial tubercle plantar surface calcaneus. B—Removal of RIPPLE® to accommodate 2nd, 3rd and 4th metatarsophalangeal joints. C—Cutout RIPPLES® for sesamoiditis and deep-seated tylomata plantar surface head of 1st and 5th. D—Removal of RIPPLES® to relieve stress from hallux joint in hallux rigidus.

The use of this technique promises excellent results in the treatment of deep-seated helomata, tylomata and verrucae. Bursae, degenerative joint disease, sesamoiditis and deformities of the toes may be accommodated. Calcaneal spurs, plantar heel bursa, hallux limitus and a variety of structural and functional disturbances can be treated with ease. Obviously it is necessary to appreciate the foot structure as an organ of both stance and locomotion. To fail to do so creates error in definitive treatment. The unique position of the podiatrist in treatment of foot disorders is his ability to be definitive and highly specialized in his diagnosis and therapy.

### Technique of Treatment

Upon localizing the site of discomfort a small section of a RIPPLE®" or "RIPPLES®" in the sole is removed to accommodate the condition. Thus, if a deep callus is noted directly below the 7th rib under the 1st metatarsal head, a section of the 7th rib is removed. This necessitates removal of only the section beneath the lesion at the medial side of the sole.

This same technique applies to lesions under any of the metatarsal heads singly or multiple. It is possible to suspend all the metatarsal heads between ribs if necessary. Corns on the distal ends of toes seen in digiti flexus may be helped by removing a rib. Similar cutouts can be

resorted to in alleviating pressure on the painful heel or under sesamoids. Some of the approaches to a successful technique are as follows:

**A. Skin Lesions:**

1. Excrescence on distal end of toe or toes.
   (a) Localize site of pressure with dorso-plantar radiograph and remove a section of the RIPPLE® directly below the lesion.
   (b) If the four lesser toes are involved, remove an entire RIPPLE® or portions of the flexible ribs beneath the affected parts.
2. Excrescence under metatarsal heads.
   (a) Under single head remove a portion of a RIPPLE®. If several deep calluses are present, removal of a complete RIPPLE® may help to suspend the painful callus between two or more ribs.
3. Callus over any of the plantar forefoot lesions may be protected in this manner.

**B. Structural and Functional Faults:**

1. In hallux limitus or rigidus the pain may be relieved by limiting function such as dorsi-flexion.
   Technique:
   (a) The RIPPLE® sole may be cut out on the plantar surface beneath the hallux so that in walking the fulcrum would be at the metatarsal head. Thus, the hallux alone is suspended and the lesser toes assume the function of flexion in propulsion. The patient with limitation of dorsiflexion is well aware of the difficulty and pain encountered with repeated dorsiflexion of the hallux in locomotion. Limiting this motion through using a rigid steel extension under the entire first segment has been of some help. It is more reasonable a concept to retain slight function and to accommodate in the method herein described.
2. The treatment of a hypermobile 1st segment with its secondary clinical phenomena may well be enhanced through proper handling of the "RIPPLE® Sole."
   Technique:
   (a) Following diagnosis by dorso-plantar radiograph and adequate physical examination an accommodative platform is placed under the 1st segment. When proven clinically to be of some help, the pad is covered with aluminum foil and a dorso-plantar radiograph is exposed with the "RIPPLE® Soled" shoe on the foot. The ribs are localized and the problem of removing ribs studied. Here it is wise to remove the ribs under the 2nd, 3rd, 4th and 5th metatarsal phalangeal joints only partially. About ⅛" of material is either cut or ground away. The 1st segment is now higher and the hypermobility relieved. The skill, intelligence and thorough understanding of the diagnostic and therapeutic skills is of utmost importance.
3. Imbalanced metatarsus or discrepance in metatarsal length pattern.
   Technique:
   (a) Locate site of excrescence or elongated length patterns through technique described. Removal of a section of the ribs under the 1st, 4th, 5th metatarsophalangeal joints will elevate the 2nd and 3rd on weight bearing. It is obvious how removal of ribs under one or more of the metatarsals will alter weight distribution in the forefoot.

4. Calcaneal Spurs and/or Bursitis Technique.

   (a) Diagnosis is made through a lateral view and the ribs removed as previously described.

   (b) Another technique would be to mark off the painful site with skin pencil. Have patient step into the shoe. The indelible marking will come off on the insole, which should have been previously wetted. The offending ribs are thus isolated easily and removed suspending the painful site between ribs.

5. Wedging of heels and soles is accomplished through removing portions of ribs on the lateral side of heel and medial side of sole. Various combinations of this technique may be utilized to fit the specific problem.


## Summary

1. A new therapy not previously described is offered the profession.

2. A method for accommodating deep-seated excrescences is described.

3. Many foot disturbances heretofore difficult to accommodate may now be aided through the application of this method of treatment.

4. The foot specialist, with his intricate knowledge of foot disability and footgear, is especially qualified to administer therapy of the type described.



*44 East Main Street*


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# A SIMPLIFIED METHOD OF FABRICATING A BALANCE INLAY*


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BALANCED therapy[1, 2, 3] is practiced in many forms, all of which are successful to varying degrees and are used by the preference of the individual practitioner. There are the various mould shoes, the laboratory made inlays, the mould sandals, the latex and flour mixtures[4], shoe therapy and the leather insert types, to name a few.

It is with the leather insert type that we are to concern ourselves in this paper.

For several years, various types of balance treatment have been tried and for one reason or another were discarded by the author. No satisfactory simple procedure was available. One presentation seemed to have the key to a simplified end result. This was the Metatarsus Parabola Alteration as presented by Ralph E. Sansone at the Region 3 Convention in Atlantic City approximately three years ago. This paper has since been published[2].

By using this concept and converting it to a dynamic functional inlay[5], we have been able to produce a successful result in approximately 90 per cent of the cases used.

The various methods used prior to this were:

1. Plaster casts, from which inlays were made. The several reasons for discarding this method were (a) the shrinkage of the plaster, (b) the cast is made at various


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degrees of weight bearing, and (c) there is a loss of dynamic action in casting.

2. The latex and wood or cork flour or combination of wood and cork flour. This technic has had successful results also, but the failure of being able to determine the exact quantities of the mixture for each foot frequently resulted in discomfort and one inlay often would be "higher" than the other. Another problem here was the shoe factor. Extra width was required or extra length or both. Frequently this led to heel slippage and gross misfitting.

3. The moulded shoe is another method of balance and this type of therapy has enjoyed more lasting results than the above technics. The prime objections to the moulded shoe, regardless of make or technic, are the cost to the patient and the reaction of the patient to the appearance. Although as a practitioner, we should be and are primarily interested in therapeutics, we must also consider the aesthetic viewpoint. Since the bulk of our patient load is female, this is a very important consideration.

4. Another form of balance in use is the method of covering a leather insole with corex and marking the pressure points and grinding these areas down to relieve the sensitive areas. This was comfortable to the patient, but ignored the propelling forces available in the toes.

The balance inlay with which we are concerned here combines the successful features of many of the above-mentioned technics plus several of its own advantages. They are:

1. Economy—The cost of fabrication is modest.

2. Simplicity—The fabrication process is so simple as to require no extensive preparation nor special equipment and space.

3. Cleanliness—Construction of the inlay requires no materials which may soil either the patient, the operator, or the office areas.

4. Shoes—No special sized shoes are required. If the patient is wearing a shoe which has been fitted properly, the inlay will fit without crowding. This applies to pumps as well as oxfords. The inlay can be made for sling back shoes and the high heel dress slipper. This is discussed later in this paper.

5. Adjustments — Adjustments can be made at any time without dismembering the inlay. Merely add to or grind from the involved areas.

6. Dynamic function—There is no loss of dynamic function for the reason that the patient wears the inlay through its entire fabrication process.

The method used in determining the type of forefoot imbalance [1, 3] is the same as those used every day in chiropody offices. Regardless of the method of clinical diagnosis used, it should be verified by x-ray. The success of the inlay, as in any therapy, depends upon proper diagnosis and analysis of the problem.

Materials needed for fabrication of the functional inlay are:

1. Functional insoles. These are supplied in sizes (full) corresponding to shoe sizes of both men and women. The preferred thickness of the insole is 1.5 mm. for women and 2 mm for men. The supplier classifies these as medium weight, and they are available at several supply houses.

2. Corex—This is a cork and rubber mixture and is available at Chiropody supply houses in 1/32", 1/8", 3/16" thicknesses.

3. Milled crepe sheet—This is a crepe rubber that adheres to itself and is very malleable. Available through Rubber Trade Association of New York, 15 William Street, New York 5, New York.

4. Heavy permanent cement—Barge, X-Cel 8 or any other of this type of cement.

Equipment needed:

1. Grinding wheel with sandpaper drum
2. Ball point pencil (free flowing)

3. Charcoal pencil
4. Paper Hanger's roller (1½ or 2")
5. Heavy shears (felt)

The general procedure is as follows:

First Visit:

1. The functional insole is fitted and trimmed to fit the patient's shoe from toe to heel. By cutting a quarter moon shaped piece from just behind the 1st metatarsophalangeal joint, the insole will fit the shoe without pressure on the leather, or wrinkling of the insole.

2. Remove insoles and place in cool water to soak for five minutes.

3. Remove insoles from water and drain off excess water.

4. Insert wet insoles into shoes. By bringing the lateral margins up in a U shaped manner, the insole will slip into the toe area easily. Then place in the heel and see to it that the insole lies smoothly throughout its length.

5. Insert the patient's foot into the shoe. Do not permit them to flex or extend the toes. Motion at this point may wrinkle the inlay.

6. Advise the patient that he must wear this shoe for the next 6 hours without removal, and the insole is not to be moved until after his next visit. This is set at 4 to 5 days later. After the 1st 6 hours, the shoe should be worn as much as possible with a minimum time of 2 hours per day.

Second Visit:

1. Remove the insole and examine the impression made during the past four days.

2. Holding the inlay to the foot, watching the impression made and using the x-ray as a guide, with ball point pen mark off the compensating pad area. The posterior limit of the pad should be at the tuberosity of the navicular, medially, and the tuberosity of the fifth metatarsal, laterally.

3. Place inlay on laboratory bench and using a charcoal pencil, heavily mark over lines made by ballpoint pen.

4. Place corex (1/8" thickness for people under 150 pounds, 3/16" thickness for those over 150 pounds) over the marked areas.

5. With the paper hanger's roller, apply pressure over marked areas. This will transcribe the compensating pad marking to the corex.

6. Cut pad and cement the side with the charcoal marking. Also cement the area between the charcoal lines on the inlay (insole).

7. After the cement dries, place pad to insole and use roller to seal the adhesive surfaces.

8. With the grinding wheel, bevel all edges so as to present a graduated sloping surface posteriorly. At the anterior aspect of the pad, bevel to present maximum comfort and compensation.

The patient is now ready to wear the inlay for another 4 to 5 days as suits the appointment schedule. Upon his or her return, any irregularly ground areas can be smoothed. At this point, the patient may remove the inlay from one shoe to another.

Third Visit:

1. Examine the impression made by the toes. With the ballpoint pencil, mark off the "crest" area.

2. Mark this crest area with the charcoal pencil as was done for the compensating pad.

3. Lay the crepe rubber over the marking and slight finger pressure will transpose the outline of the crest. Cut the rubber outlined and cement this and the corresponding area on the inlay.

4. Place the crest (1st layer) in place and cut similar shape wedges of the rubber in order to get the required height. These are adhered merely by pressure. When this is completed, the roller is used

with pressure to completely adhere all surfaces.

The inlay is now ready to be worn and except for minor adjustments is complete. It is advisable to have the patient return in two weeks to check the inlay for accuracy and patient comfort. Two months later, the inlay will usually need an over-all addition of 1/32" corex as a result of compression from the patient's wear. Occasionally this will be required in less than two months depending on the individual's occupation.

Frequently it has been noted that excellent results are attained in one foot, but the other, although comfortable, is slow in responding to the therapy. In most of my cases this has been due to an inequality of leg lengths. This has been overcome by adding one half the original thickness of the balance wedge to the shorter extremity.

To fabricate an inlay for the sling back shoe, make the inlay as above and after completion, cut away the exposed heel portion.

Since the balance inlays are only a part of the therapy, the patient is advised that routine chiropody care is essential to his well being.

A balance inlay of this type simplifies therapy. It is easily and comfortably worn by the patient and the practitioner has little or no problem in regard to adjustments or patient acceptance. The span of effectiveness of this type of inlay has been from one year to two and a half years, depending on the patient's occupation and care.

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## THE OFFICE FABRICATION OF BALANCE APPLIANCES

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New York, N. Y.

In my office experience, poor results with appliances can usually be traced to the fact that the practitioner at some point has lost (or perhaps never had) "control" of the design or fabrication of the appliance by permitting the laboratory to make all the decisions. This has led me to fabricate my own balance appliances.

I have been making my own appliances for many years. I feel that the satisfaction of doing the job properly is well worth the time and trouble involved. It is a simple procedure which takes little time and produces worthwhile results.

After examining the patient and determining that a balance appliance is the best modality for that patient, the following procedure is followed:

The foot is prepared by marking off the landmarks with indelible pencil. The landmarks we are concerned with are the tuberosity of the navicular, the lateral aspects of the first and fifth metatarsal heads, the heads of the five metatarsals, and a curved line or arc directly behind the heads of the metatarsals. If there is anything else that might require special attention, such as sesamoiditis, neurofibroma, or a particularly sensitive or inflamed heloma, these, too, should be marked off. A lubricant such as vasoline or tincture of green soap may be used, but is not absolutely

necessary. Good negative casts can be obtained without the use of a lubricant.

After marking the foot, I prepare 2 gauze stirrups (a strip of non-sterile gauze 2″ x 6′), knot the two ends together to form a 3′ loop, a bowl (plastic or glass) of warm water with about 2 tablespoons of plaster of paris mixed into the water, 12 strips of 4″ x 7½″ plaster of paris "splints" (cut 6 4″ x 15″ strips in half), and 3 sheets of newspaper.

The 3 sheets of newspaper are spread on the floor, adjust the patient's foot in as near a neutral position as can be obtained, loop the gauze stirrup around the five toes and hand the patient the knotted end with instructions not to pull on the stirrup, just to hold it steady in the position in which the foot has been placed. Be sure to check position of the foot from time to time.

A "slipper" impression of the foot is made with the "splints," not encasing the toes, but bringing the splints as far forward as possible and upon the medial and lateral sides to insure that all "markings" are part of the impression.

The mold is poured and the "set" model is removed from the impression after 24 hours. The model is prepared by removing rough spots and fitting holes and cracks that are not part of the foot. The landmark markings are carefully retraced and the model allowed to dry another 24 hours.

Select a stock shell (or make your own), the closest size to fit the cast, checking heel, scaphoid tuberosity and metatarsal markings. The shell is soaked in hot water for about 30 minutes until it is soft and pliable. It is then placed on the cast in proper position and bound tightly with rubber strips 1½″ x 4′ cut from old inner tubes.

Thus bandaged, the wet shell remains on the cast for about 6-8 hours. The rubber strips are removed and we find the shell pretty well adhered to the cast. Outline the shell on the cast with ordinary pencil and allow to dry for another few hours. Remove the shell from the cast and allow it to dry completely. If necessary, trim the shell (a linoleum knife is fine for this purpose) to the best fit.

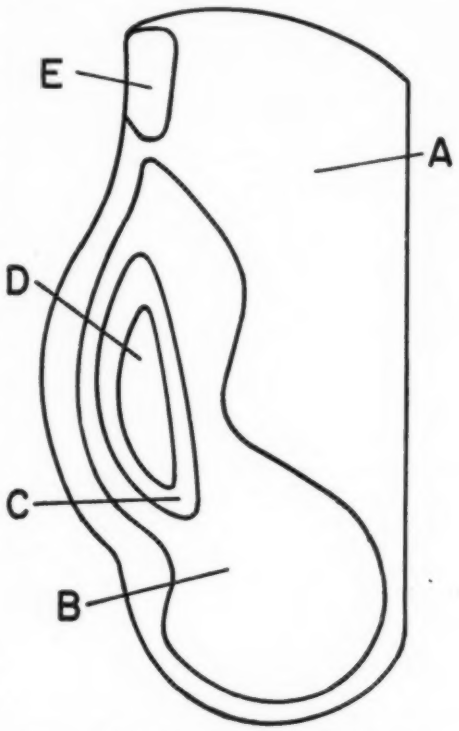


Fig. 1-A—Leather Shell. B-Celastic Stiffener, 1st layer. C—Celastic Stiffener, 2nd layer. D—Celastic Stiffener, 3rd layer. E—Cork "correction."

After the shell has dried completely we are ready to celasticize it. A pattern is cut from a piece of paper to the exact size and shape desired. I had tried to incorporate a heel bracer or stiffener because after wear the appliance tends to curl at the heel. After using separate pieces of different shapes, I finally incorporated the heel stiffener and the "cookie" into one piece that resembles a distorted S (Fig. 1-B). The area under the inner tuberosity of the heel is cut away on the pattern as this always seems to be a stress area to the patient (Fig. 1-B).

The use of celastic is dependent on the weight of the patient. I have found that Celastic ®[1] #125 is most useful. One layer (of #125) will support effectively up to about 180 lbs. From 180 lbs. to 250 lbs., two layers will suffice, over 250 lbs., three layers should be used. The second and third layers are cookies, each shaped slightly smaller than the one before it.

After paper patterns are cut, they are traced onto a sheet of Celastic, and the pieces so traced cut out of the sheet, and numbered L1-L2, R1-R2, etc., with an all-purpose marking pencil, corresponding to right and left foot (Fig. 1B, C, D).

We now prepare a large mouthed jar and cover, a clamp or hemostat, a 1½" wooden roller, rubber glove (left), rubber bandage and gauze string. Acetone or Celastic softener is poured into the wide mouthed jar to a level of about 2". (This liquid is used over and over again and should be kept covered to prevent evaporation.) Replace the shell on the cast. Don the left glove (for right-handed podiatrists) and grasp first piece of celastic with hemostat. Dip the celastic piece into the acetone. The stiff celastic will soften as it absorbs the acetone. Immerse it completely and allow to soak for a minute or two. Remove from solution, reclamp in another spot and immerse for another minute or two. Withdraw, allow to drip off into the jar, place in position on the shell, releasing clamp, hold with gloved hand and use wooden roller to work celastic on shell evenly and smoothly. Add other pieces of celastic in the same manner. Tie with rubber bandage as we did with wet shell and secure. Allow to dry for 6-8 hours, then remove bandage and allow to dry on cast for about 4 hours. Remove from cast and allow to dry thoroughly.

After the celastic has dried completely the bottom of the appliance is smoothed on an emery wheel. The lines on the celastic caused by the bandages are smoothed down as are the edges of the celastic. The shell edges are thinned if necessary as well as any rough spots.

Pads, corrections, wedges, etc., are cemented on with rubber cement. I use metatarsal pads (stock or custom made), dancer's pads, sponge or foam aprons, heel pads, cups, horseshoe pads, etc., on the top surface of the shell; corrections, wedges, counter wedges, etc., on the under surface of the shell. These can be arranged to your individual needs and liking. I find the most common and effective correction is a balance pad (cork) (Fig. 1-E) under the head of the 1st metatarsal. Most patients will get along as a start with a neutral appliance and no correction. Unless a patient has worn appliances I start off with as little correction as possible, and build up as we go along.

The appliance is now ready to be finished. I have tried many methods for the bottom covering including suede, rubber butter, burlap, etc. I find the most effective material to be a very thin leather split, the thinner the better. It will wear well, and most important will not slip. A piece of this material is cut about a half inch larger around than the appliance. Rubber cement is applied to the bottom surface of the appliance and the smoother surface of the split. The rubber cement is allowed to dry. The appliance is placed on the dried rubber cement surface of the split and pressed down on it. The split is then worked smoothly and tightly to all the contours of the bottom of the appliance.

For the top surface of the appliance many leathers were tried. A good grade of thin calf skin proved best as far as wear, durability and appearance were concerned. This is cut the same as the split, about one-half inch larger all around. The wrong side of the calf skin piece is given a coat of rubber cement and allowed to dry. It is then immersed in hot water until completely satu-

®[1] Dupont

rated. (I find it a good idea to mark these pieces R or L.) When completely saturated it is removed from the water, placed on a piece of newspaper (rubber cement side up) and blotted with a towel until all the droplets of water are removed. Another coat of rubber cement is applied, also the top surface of the appliance (including pads) is given a coat of rubber cement. When the rubber cement is dry, the top leather is applied starting at the front area of the appliance and working back using finger pressure. With the top leather being wet it is more amenable to stretching and forming into the various curves and undulations of the appliance. Press firmly where the top covering meets the bottom covering.

With the under surface of the appliance up, use a metal, glass or plastic rod (shaped like a pencil) to trace the perimeter of the appliance and create a groove to be followed when trimming the excess leather. Using a 5" curved scissor at a slight angle, to create a bevel, trim your appliance as close as possible. The appliance is allowed to dry thoroughly and then the top surface is waxed with a paste wax to resist deterioration from perspiration and friction. The appliance is now ready for your patient.

If corrections are needed at any time in the future, the covering of the appliance may be partially or completely removed, correction added or removed, the covers re-cemented on and the appliance will be again ready for wear. Benzene, kerosene, acetone, etc., will very effectively loosen the rubber cement to facilitate removal. I find that an eye dropper filled with the solvent and dropped into an opening will ease the cover off with no damage to cover or appliance.

This is an appliance that is custom made in your office for your patient. This is a service that can be obtained nowhere but in your office.

*1186 Broadway*

## CLINICALLY SPEAKING

*A place for the more informal presentation of reminders, suggestions, notes, observations and technics of value in office practice. Your contributions of short manuscripts or illustrative case histories will determine this section's usefulness.*

### OFFICE FABRICATION OF A "CONVENTIONAL" MOULDED SHOE

MILTON ROTH, D.S.C.
El Paso, Texas

THE moulded shoe has become a part of our armamentarium. One major drawback in its use has been its unconventional appearance. A second problem, generally of lesser importance but to some patients a prohibiting factor, has been the necessarily high cost to the patient.

This has prompted the writer into experimenting with a type of footgear that would (a) embody the principle of the custom moulded shoe, (b) be conventional in appearance, (c) and be in the accepted price range of a stock shoe from any exclusive or regular shoe store. The full moulded shoe does not have an acceptable appearance. The custom removable insole type is a step in the right direction. It, however, still is boxy in appearance and heavy. The Levy-mould insert in a conventional shoe is limited by construction over a static plaster model, as are some of the other types.

The following technique was evolved:

Materials:

1 pair insoles*

Moulding compound (Latex and wood flour)

* Teltscher No. 2162

Saran Wrap

½ inch wood heel blocks tapered to one edge, 3 inches by 8 inches.

Method:

1. The insole was filled with the moulding compound and spatulated level.
2. The mixture was covered with a piece of Saran Wrap.
3. With the heel block in position approximating the heel height of the shoe, the insole and block were placed on the floor before the standing patient.
4. The foot was placed into the heel of the insole and the patient was instructed to place full weight of the insole.
5. A full step was taken on to and over the insole by the patient.
6. The Saran Wrap was carefully peeled off and the excess removed by spatulating even with the edge of the insole.
7. The crest and the excess amount was carefully rounded and shaped as not to interfere with the normal foot movements. (This may be done while the compound is still fresh or on the grinding wheel after drying.)

The procedure was repeated for the other foot.

The moulded and uncovered insoles are delivered to a local shoe manufacturer who constructs a lightweight moccasin over a conventional wooden last. His construction normally incorporates as a basic insert a cork filler of similar dimensions as the insole used above.

The above has been expanded so that sandals, boots, dress slippers, and even pumps can be secured for my patients.

It should be mentioned that the outsole is not finally fixed until after a trial fitting. This permits greater ease in making minor corrections in the inlay.

The writer recognizes that the reader may not be able to attain similar cooperation with a local manufacturer. It is suggested that arrangements may be made with a cobbler. He will be able to separate the outsole and remove the insole and filler, making room for the inlay. The outsole is reattached permanently to the welt and upper after satisfactory trial fittings.

*4428 Montana Ave.*

## A CONTOUR MOLDED SHOE OF CONVENTIONAL APPEARANCE

WILLIAM D. READEY, D.S.C.
Aurora, Ill.

WHILE a member of the Orthopedic Staff of one of our foot clinics* I became acquainted with a molded shoe† which was used successfully for many kinds of orthopedic and postoperative cases. For the past year in private practice, I have been able to help many of my patients with the use of this shoe. They have proven satisfactory for many conditions and the minimum office time required to prepare the shoe for the patient has been a distinct advantage.

The inlay mold is removable from the shoe, which facilitates molding of the inlay directly, without the necessity of a separate plaster impression of the foot. Using the kit supplied with the shoe, it is possible to control the molding to the requirement of the individual problem. Within twenty-four hours the patient is reappointed and the shoe fitted. The mold has been only partially set and accepts any corrections needed at this time.

The directions furnished by the supplier are easy to follow. The kit supplied consists of a pair of shoes with blank inlays of the size desired for the patient, a special latex liquid, pre-mixed mold ingredients, a heavy aluminum foil, monk's cloth and kid leather sock linings. The only materials and equipment necessary aside from this are a roll of Saran Wrap, a mixing bowl

* Foot Clinics of the Illinois College of Chiropody.
† CUSTOM MOLD® Shoes and Sandals, Chiropody Supply Headquarters, Inc.

(rubber, glass or ceramic), spatula, tablespoon and rubber cement with brush.

The steps in the fabrication of the inlay are:

1. Remove cork inlays from shoes. Place patient's bare feet on inlays to make certain size and width are correct.

2. Mark with chalk or pencil on inlays points where allowance is to be made for bony prominences on the foot, such as enlarged sesamoids, tailor's bunion, dropped metatarsal heads, hallux valgus, hammer toes, etc.

3. Grind out pockets in the inlays at the points you have marked, using a cutting burr with your office drill. If the cutaway is larger than actually needed, the molding compound will fill it in to fit the prominence.

4. Cement aluminum foil to upper surface of both inlays. Smooth out wrinkles by rubbing with your fingers. Trim foil with scissors to allow ½-inch overlap all around. Press overlap down on to edge of inlay.

5. Prepare the molding compound. It is best to prepare one inlay at a time. Pour the entire contents of one package into the mixing bowl. Add contents of one bottle of latex. With spatula, mix thoroughly until the compound has the consistency of peanut butter.

6. Using the spatula (or outside of bowl of spoon), apply molding compound to center of right inlay, a little at a time, smoothing it away from the center, so that the outside edge acts as a scraper. About 3/16" thickness is sufficient for the forward part and about 1/8" for heel and arch part in most cases, but the thickness may be varied to suit the requirements of the foot. Corrections may be built up by adding more compound at specific locations. It is well to apply a little extra compound at the point coinciding with the ridge of the metatarsophalangeal joints.

7. Carefully lay the monk's cloth (coated surface down) on mold compound evenly from side to side, allowing plenty of overlap. Smooth out as much as possible. You are now ready to shape the mold to the patient's foot.

Fig. 1. CUSTOM MOLD®† Shoe

8. Place inlay on floor close to patient's right foot. With patient seated and his right leg perpendicular to the floor, place his right foot carefully on the inlay in the position it will assume in the finished shoe.

9. Make sure the heel is in correct position. Press down on patient's knee to seat heel in heel cup.

10. Have patient stand keeping the weight mostly on the left foot. Place and hold foot in proper position on mold. Have patient simulate a walking step by flexing his knees, without raising his right heel or foot from the inlay.

11. With patient standing upright, press down firmly on toes and forepart of foot to position each toe. Have patient carefully lift foot out of the mold.

12. Re-seat patient. Inspect to determine that mold now conforms to contour of foot. Make any smoothing-out adjustments that may be necessary, particularly at distal ends of toes, to permit them to elongate. Run spatula around edge of inlay to trim off excess mold compound that has been squeezed out.

13. Before preparing the left inlay, clean out mixing bowl of excess batter and

prepare a fresh batch of the molding compound. Repeat molding operation with the left foot.

14. When both molds are made, carefully put the inlays aside to dry. Reappoint patient for 24 hours later.

15. After 24 hours, the molds will have dried somewhat but will still be pliable. When patient returns, trim the foil flush and monk's cloth with the edge of the inlay. Use sharp scissors. Place inlays in shoes and have patient walk around with them for 15 to 20 minutes to create a perfect balanced mold. If necessary, you may make minor adjustments to the mold at this time. Shoes may be delivered to the patient at this time but should not be worn for 48 hours to permit curing of mold.

16. When patient returns, you may make your final inspection and having determined that the shoes are perfectly comfortable, cement the leather sock lining to the monk's cloth, and the operation is completed.

Also available besides the shoe, are sandals. There is a slight simplification of technique for the sandals. These have adjustable straps which make it quite adaptable.

This type of individually constructed, balanced footwear provides the practitioner with full control, as he does all the molding and corrections himself.

*157 South Lincoln Avenue*

## ALLERGIC DERMATITIS
### A Case Report

C. A. TRETHEWEY, D.S.C.
Owosso, Michigan

**Patient History:**

FEMALE, married, age 27, 108 pounds, light frame, three children ranging in age from two to five years, one normal birth and two Caesarean sections. Patient on mild sedation for spasmodic nervous involvement (P.R.N.). Other history not significant.

**Involvement:**

Vesicular eruption to plantar of right heel with a duration of three weeks. No previous involvement (dermatological) of the area at any other time.

On questioning, patient stated that she had been wearing only stockings when waxing the floors and that they were moist when she finished.

**Case History and Treatment:**

Based on provisional diagnosis of dermatitis venenata with vesicular areas containing serous fluid.

Debridement of area: Merthiolate®[1] and Nupercainal,®[2] applied to area. Tubegauze®[3] dressing applied to area to prevent spreading by contact. Prescribed boric acid soaks and advised separate use of bath towel and mats to prevent spread to other members of the family.

Tenth day—area clearing. Debridement of central vesicular area and surrounding desquamated tissue. Cor-Tar-Quin®[4] dressing applied Patient advised to remove bandage after three days, continuance of soaks and prescribed A-M Solution®[5] after every soaking.

Twenty-fifth day—Debridement of area and applied Aquasol A with Panthoderm.®[6] Patient advised to discontinue soaks. Continuance of A-M Solution B.I.D., followed by Aquasol A with Panthoderm. Advised continuance of separate towels for the present. Progress of tissue regeneration at this time was excellent.

Thirty-third day — Patient's husband called and advised that area had broken out again. She had just waxed floors with shoes on, using the same floor wax. Patient and husband advised that a change of wax

®[1] Eli Lilly and Company
®[2] Ciba Pharmaceutical Products, Inc.
®[3] Scholl Mfg. Company
®[4] Dome Chemicals, Inc.
®[5] Kenton Pharmacal Company
®[6] U. S. Vitamin Corporation

*(Continued on Page 492)*

# JOURNAL
OF THE
# AMERICAN PODIATRY ASSOCIATION

*The Official Publication of the Podiatry-Chiropody Profession*

PUBLISHED UNDER THE DIRECTION OF THE EXECUTIVE COUNCIL BY THE
AMERICAN PODIATRY ASSOCIATION

3301 Sixteenth Street, N.W., Washington 10, D. C.

A. RUBIN, D.S.C., Editor

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## THE PRESIDENT'S PAGE

### Podiatry-Chiropody

I should like to report to you that every contact we make on a national level is pleased that we have changed our association name to podiatry. These unsolicited comments are made on the most unexpected occasions.

Since returning from the convention, it has been called to my attention that a certain state leader in commenting on the above facts said, "That is all right on a national level, but we will *never* change in our state!" I am sorry for this inconsistent thinking! Did it ever occur to you that if podiatry is a better term on a national level, it is a better term on a local level? Please stop being fearful of losing ground when you change to podiatry!! The public measures us by the quality of service rendered. It is not interested in the title of our profession.

As of now it seems to me that Wisconsin has offered an excellent method of educating the public to the name change, and Wisconsin has graciously offered its solution to all.

In addition, Past-President Morris has appointed a ten-man committee to study and help solve the problems which may have been caused by the nomenclature change.

You may be assured that the term chiropody will be used in conjunction with podiatry on all possible occasions until it becomes eminently clear to all that on a national level an overwhelming majority wishes to discontinue the term chiropody.

### Convention

New York is hard at work getting ready for an even greater convention than this year's Washington meeting.

GEORGE E. GUENZLER, D.S.C.

## FACTS ABOUT OUR SCHOOLS

**A Guest Editorial**

The core of teaching in all schools of learning is done by a full-time faculty. This is because teaching, if it is to be competent, requires that the teacher make it a lifetime career, not merely an avocation.

In schools of the healing arts, the basic curriculum is taught by a full-time faculty whose members are usually equal in competence to the better practicing members of that profession. The advancement in the quality of patient service and public acceptance of the various professions can be traced directly to the quality of training given in their respective schools which, in turn, has a direct relation to the number and competence of the full-time instructors.

Podiatry-chiropody is perhaps the only recognized profession that has few, if any, of her more qualified members making a career of teaching this art and science. This is because competent teaching is costly.

In private medical schools of the United States, the tuition is between $800 and $1,000 a year. Studies show that on an average this is but 20 per cent of what it costs the college to educate the student. Even undergraduate training in colleges and universities leading to the bachelor's degree costs on an average of $1,500 per student year (tuition at Northwestern University and University of Chicago is $900 per year in the undergraduate schools) and professional training is always much more costly. In all professional schools, student's tuition is but a small fraction of what it actually costs to educate him.

Podiatry-chiropody colleges depend almost entirely on the student tuition income. Tuition in these schools averages $600 a year (until two years ago it only averaged $350). Most of this goes for administration and to maintain physical plants. This leaves very little for teaching.

It is precisely because of the above factors that our colleges have been having difficulty attracting a sufficient number of students to insure the perpetuation of the profession. It is a well-known fact that one of the private medical schools in Chicago has over 1,000 applicants yearly and admits only 71 students because the school, and especially its alumni, raised sufficient funds to obtain an outstanding faculty.

Our present knowledge of the foot is primitive compared with other parts of the body. This means that we have an immense opportunity to add greatly to useful medical knowledge.

When the men and women practicing chiropody-podiatry face the above facts and react appropriately, the profession will markedly increase the strides it already has made.

HENRI L. DUVRIES, D.S.C., M.D.
Chicago, Illinois

## NATIONAL PHARMACY WEEK

The week of October 5 to 11 was observed as National Pharmacy Week, giving everyone the opportunity to honor pharmacists and appreciate the importance of pharmacy in our way of life. One of the world's most ancient and noble professions, pharmacy has its roots in the prehistoric knowledge of natural products in treating mankind. From a knowledge of pharmacy, early medicine evolved.

Podiatry-chiropody, as a member of the medical science, is proud to honor pharmacy for its contributions to our high standards of health.

## WASHINGTON REPORT

### More Podiatrists-Chiropodists for the Army Medical Department

THE United States Army Medical Department, during the coming fiscal year, is creating more vacancies for commissioned podiatrists-chiropodists.

All eligible podiatrists-chiropodists who are interested in a commission, with active duty in the Army Medical Service Corps, are urged to make application through their local army area procurement officer. To be eligible, he must have the following: graduate from high school; a minimum of one year preprofessional and four years of professional podiatry-chiropody schooling; he must be a graduate from one of our six accredited colleges.

There are several vacancies now, and more are expected during the coming fiscal year. Individuals will be selected on a best-qualified basis.

### Small Business Administration

The membership of the A.P.A. is again reminded that loans are available to them through the Small Business Administration for capital improvements and equipment. To date over 20 million dollars have been loaned through this agency to podiatrists-chiropodists, physicians, nursing homes, dentists, etc. For further data write to the Small Business Administration, Washington 25, D. C.

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### Clinically Speaking—Trethewey

*(Continued from Page 489)*

should be made to avoid further reoccurrence. Advised trial and error method with waxes and continuance of above treatment.

Fortieth day—Patient called, area clearing, some tissue still desquamating. Advised continuance of treatment.

Fifty-third day—Area clear with tissue free of involvement. Minor area (medial-lateral) of heel still desquamating. Patient otherwise free of involvement, advised of sensitivity of the skin and the importance of changing waxes.

Sixty-third day—Patient called, had tried to wax bathroom floor with shoes on and had noticed minor irritation which subsided by morning using A-M Solution. Following day did the kitchen with a different wax and noticed no irritation.

### Conclusion:

This report is presented as a case history of and involving an allergic dermatitis. It is hoped that it will be as interesting to the reader as it was to the author. A case report has been forwarded to the company for evaluation by their chemists.

*Matthews Building*

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The test of tolerance comes when we are in a majority—the test of courage comes when we are in a minority.

*Unknown*

## TECHNIQUES IN FOOT SURGERY

L. R. McCAIN, D.S.C., F.A.C.F.S., and N. H. KETAI, D.S.C., F.A.C.F.S.
Editors, Publications Committee, A.C.F.S.

*Illustrated case reports and discussions, suggesting approaches to podiatric surgery, from the files of the American College of Foot Surgeons.*

### SURGICAL REMOVAL OF A LIPOMA FROM A FOURTH TOE

A FEMALE patient, aged 49, seen at the hospital was unable to wear shoes comfortably because of pressure to a growth on the fourth toe left foot. The growth had been developing for the past two years.

Roentgenograms indicated there was no involvement to the bone.

Urinalysis findings were as follows: Color—yellow, character—clear, reaction—acid, specific gravity—1.020, Albumin—negative, and sugar—negative. Blood count findings were: Hemoglobin 86%; W.B.C. 9,500; R. B. C. 3,950,000. Differential: Baso. 1, Segs. 55, Lymps. 43, Mono. 1 (Schilling). Bleeding time was 3'20", Clotting time 5'41".

The toe presented an involuted appearing tumor which was soft to palpation. The growth extended dorsally and distally with saclike dilations and covered entire toenail.

The preoperative blood pressure was 150/70, respiration 18, pulse 82.

The patient was given Demerol Hcl. ®[1] 100 mgm. i.m. preoperatively.

After aseptic procedure, anesthesia was effected by use of an ankle block, using Xylocaine ®[2] 1% with epinephrine 1:100,000 and Alidase. Martin bandage was then applied.

Operative technic was as follows: A hockey stick incision was made with the curved end beginning at the metatarsal head and extending distally to the nail proper, running laterally. The skin flap was reflected medially and a large encapsulated tumor was exposed. Fibrous adhesions were released by blunt and sharp dissection. The area was explored for further growth and none was found. Tumor size was 2½ cm. x 5 cm. Tissue had been greatly distended on the toe dorsally, so a section of tissue 1 cm. in width was removed from the toe to enable proper approximation of tissue prior to suturing with 000 silk interrupted mattress and interrupted sutures. A sterile Telfa ®[3] and gauze pressure dressing was applied.

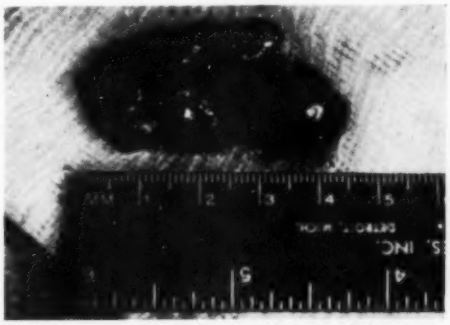

Fig. 1. Lipoma removed from 4th toe, left foot.

The patient was given Demerol Hcl. 100 mgm. i.m. p.r.n. for severe pain postoperatively, and Empirin Compound with Codeine Phosphate ®[4] grs. ½ q.4 h for mild pain.

Postoperative treatment was as follows: On the second and fourth days sterile outer dressings were made. On the eighth day the sutures were removed and sterile Telfa dressing applied. A like redressing was made on the eleventh day. On the sixteenth day debridement was done but no dressing applied. The patient was dismissed on the twenty-second postoperative day.

Postoperative diagnosis was a lipoma.

®[1] Winthrop Laboratories
®[2] Astra
®[3] Bauer & Black
®[4] Burroughs Wellcome & Co.

Lab. Tissue Report #PK-71: Gross: Specimen consists of an elongated, firm, grey-yellow mass measuring 5 x 2 cm. approx. On section, the surface is grey-white and homogenous. Microscopic: Sections show a tumor composed of adult adipose tissue traversed by bands of fibrous connection tissue. There is no evidence of malignancy seen in the sections examined.

Patient convalesced without complications. Walking was permitted on foot within 48 hours.

*A. G. Kalin, D.S.C. F.A.C.F.S.*

*Comments:* As shown here all growths should be sent to the laboratory for sectioning and a pathology report.

*L.R.M. & N.H.K.*

## SURGICAL REMOVAL OF A MEDIAL SESAMOID

A FEMALE patient, aged 18, seen at the office had a history of a fracture of the medial sesamoid right foot approximately six months previously. Although proper treatment had been instituted at the onset the sesamoid never healed properly and was painful upon weight bearing.

Urinalysis was negative, sugar and blood count findings were all within normal range.

The patient was given Sodium Seconal ®[1] gr.¾ 45 minutes before the surgery.

After aseptic procedure, anesthesia was effected by infiltrating four cc. Xylocaine®[2] 2% proximal to the area of the sesamoid. A Martin bandage was then applied.

Operative technic was as follows: A plantarly curved incision approximately 4½ cm. long was made over the medial aspect of the first metatarsal head. The skin was retracted and the area of the sesamoid exposed by sharp and blunt dissection. The sesamoid was then removed by sharp dissection, using it as a guide, and being very careful not to disturb the tendon of the Flexor Hallucis Longus. The medial tendon of the Flexor Hallucis Brevis from which the sesamoid had been removed was then sutured with five 000 chromic catgut sutures. The skin was closed with eight interrupted 000 silk sutures. Approximately one cc. Achromycin Hcl.®[3] solution was then deposited in the wound. Sterile Telfa®[4] was placed over the wound and pressure dressing applied.

The patient was instructed to use ice pack and keep part elevated. Empirin Compound with Codeine Phosphate®[5] No. 3 q 3 h. if necessary was prescribed.

Postoperative treatment was as follows: On the second day the outer dressing was removed and sterile one applied. On the seventh day entire dressing removed, Tn. Merthiolate applied, Telfa placed over the wound, and redressed. On the fourteenth day the sutures were removed, Tn. Merthiolate applied, and redressing made. On the nineteenth day debridement was made and proper shoe padded to keep weight bearing off the area.

The patient recuperated without incident and is completely comfortable.

*Comments:* This procedure is also used for alleviating a plantar keratosis over the area of the medial sesamoid.

*L.R.M. & N.H.K.*

®[1] Lilly
®[2] Astra
®[3] Lederle
®[4] Bauer & Black
®[5] Burroughs Wellcome & Co.

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"The world belongs to the enthusiast who keeps cool."

*William McFee*

# PHARMACEUTICAL PREPARATIONS FOR THE PROFESSION

HARRY L. HOFFMAN, Ph.G., D.S.C.
Chairman, Council on Podiatry Therapeutics and Pharmacy

*A column devoted to preparations, new and old, with emphasis on their value and uses in everyday chiropody practice. This is a regular monthly column prepared from information furnished by the pharmaceutical house. We invite questions, which we shall endeavor to answer, or obtain the answer.*

### Dilaudid Hydrochloride

**Generic Name:** Dihydromorphinone hydrochloride.

**Description:** Analgesic, antitussive, narcotic. The hydrochloride of a derivative of morphine in which one hydroxyl has been replaced by a ketone group and the adjacent double bond removed by hydrogenation. White, odorless, crystalline powder, freely soluble in water (1:3), sparingly soluble in alcohol.

**Action and Uses:** Quick acting analgesic more potent than morphine though significantly less hypnotic in comparable therapeutic doses. Side actions—(nausea, vomiting, constipation, euphoria) are less common than with morphine. For relief of severe pain in inoperable carcinoma; in surgery, obstetrics, urologic procedure; in renal colic and for cardiac pain. As an opiate cough sedative.

**Administration:** Orally, initially 1:3 mg. (1/48 grain) increased when necessary to 2.5 mg. (1/24 grain) or 4.0 mg. (1/16 grain). Subcutaneously, 2.0 mg. (1/32 grain) the effects beginning in about 15 minutes, persisting 3 to 5 hours. For slower absorption and more lasting action, as in control of pain at night, by rectal suppository 2.5 mg. (1/24 grain). The doses used for analgesia are about 1/5 those of morphine.

*CAUTION: Like morphine, a respiratory depressant and spinal excitant. The same precautions as to addiction and tolerance are necessary.*

**Supply:** Hypodermic Tablets, 1/64, 1/48, 1/32, 1/20 and 1/16 gr. (1.0, 1.3, 2.0, 3.2, and 4.0 mg.) In tubes of 20 and bottles of 100. Oral tablets, 1/24 gr. (2.7 mg.) in tubes of 10 and bottles of 100. Rectal Suppositories, 1/24 gr. (2.7 mg.) In cacao butter base in boxes of 6 and 100. By Bilhuber-Knoll Corp. distributor, Orange, N. J.

### Radiol Germicidal Solution

**Generic Name:** Cetyl Dimethyl Ethyl Ammonium Bromids.

**Description:** Super-Concentrate. This is a germicidal solution of high bactericidal efficiency. Safe, effective and convenient when used as directed.

**Action and Uses:** Radiol is a highly efficient and reliable preparation for the disinfection of surgical instruments and appliances. This Germicidal Solution depends upon the antibactericidal properties of the quaternary ammonium salts. These salts are more efficient and safer than the mercurials. The low surface tension of Radiol Germicidal Solution enables the solution to effectively cover the surfaces of the surgical instruments immersed in it.

When the Super-Concentrate form is correctly diluted, the resulting Radiol Germicidal Solution will contain 0.25% of cetyldimethyl-ethyl ammonium bromide, sodium bicarbonate U.S.P. 0.08%, sodium carbonate 0.17%, sodium nitrate U.S.P. 0.25%, sodium ethylenediamine tetraacetate 0.1%, a certified color, 2% propylene glycol and water Q.S. Incorporating the sodium nitrate in the solution eliminates the need for anti-rust factors to be added.

**Indications:** Radiol Germicidal Solution, because of its high bactericidal efficiency, can be used for the disinfection of surgical instruments and appliances. It should not be relied on to disinfect hinged or corroded instruments or those with deep narrow crevices, defective plating or surfaces otherwise accessible with difficulty, nor should it be relied on for syringe disinfection.

**Directions:** Thoroughly wash and rinse all instruments, freeing them from blood, pus, soap and debris prior to placing them in the solution. The presence of appreciable quantities of these contaminants will reduce the bactericidal efficiency of the solution. The solution must come in contact with all surfaces of the instrument for at least 15 minutes to insure thorough disinfection. It is recommended that the solution be changed periodically for maximum efficiency.

**Needle Disinfection:** It is advisable to sterilize the needle by heat, because of the unreliability of penetration of the solution into the Lumen of the needle. It then may be immersed in the Radiol Solution to maintain sterility.

*Caution:* In the presence of spore-bearing organisms and Mycobacterium tuberculosis the solution cannot be relied upon to insure thorough disinfection. Instruments or appliances made of aluminum should not be immersed in this Germicidal solution. As previously indicated, needles, syringes and instruments with worn, pitted or fissured plating should be sterilized by heat. They may be stored in Radiol Germicidal solution and will not rust while fully immersed. However, when removed from the solution and exposed to air, oxidation may occur at points of defective plating.

Directions for the Preparation of a Ready-to-Use Solution:

Dilute contents of entire vial with sufficient hot water to obtain one quart Radiol Germicidal Solution. No anti-rust tablets are necessary as the solution already contains the necessary anti-rust ingredients.

**Supply:** Boxes of 8 vials (each vial contains 66 gm.). By The Novocol Chemical Manufacturing Company, Inc., 2911-23 Atlantic Ave., Brooklyn 7, N. Y.

### Acid Mantle® Creme (pH 4.2)

**Description:** An especially formulated creme of buffered aluminum acetate in a water-miscible base designed to promptly restore and maintain normal acidity of the skin.

**Indications:** Dermatoses caused by exposure to soaps, detergents, chemicals and alkalis, housewife's eczema, nummular eczema, dishpan hands, seborrheic dermatitis, winter itch, bath dermatitis, shaving dermatitis, pruritus vulvae et ani, athlete's foot and dry skin due to various causes. A vehicle for steroids, tars, and other topical drugs.

**Administration:** Apply locally on the skin as often as required, particularly after washing or wet work.

**Supply:** One ounce tubes, 4 ounce, 1 lb., and 5 lb. jars. By Dome Chemicals Inc., 109 West 64th Street, New York 23, N. Y.

### Acid Mantle® Lotion (pH 4.5)

**Description:** Same as Acid Mantle Creme but in lotion form.

**Indications:** Dermatoses caused by exposure to soaps, detergents, chemicals and alkalis, housewife's eczema, nummular eczema, dishpan hands, seborrheic dermatitis, winter itch, bath dermatitis, shaving dermatitis, pruritus vulvae et ani, athlete's foot and dry skin due to various causes. A vehicle for steroids, tars, and other topical drugs.

**Administration:** Apply locally on the skin as often as required, particularly after washing or wet work.

**Supply:** 4 oz. squeeze bottles, 1 pint and ½ gallon bottles.

# PODIATRY-CHIROPODY ABSTRACTS

ROBERT SHOR, D.S.C.
4480 Crenshaw Bldg.
Los Angeles, Calif.

*Editors of Local, State and Regional Publications are requested to provide copies to the Chairman of the A.P.A. Committee on Publications who is preparing this section of the Journal.*

## DIFFERENTIAL DIAGNOSIS OF VARIOUS FOOT INVOLVEMENTS

F. S. Holman, Rhode Island Podiatry Journal, 6:6, March 1958.

This paper outlines the differential diagnosis of several conditions which present themselves more or less frequently in the practice of podiatry.

Holman gives the differential diagnosis of arthritis, gout, fracture, edema, hallux valgus, hallux rigidus, and hammertoe.

## A NEW RESILIENT PLASTIC FOR ORTHODIGITAL PROSTHETICS

Sidney Sivitz, Canadian Podiatry Journal, 1:2-6, Jan. 1958.

Sivitz relates the properties and characteristics of plastic materials that may be of value to us and defines them as follows: Self-polymerizing or curing, at room temperatures; the absence of chemical irritants to the skin; must have a "dough" state or working period of time of about two to five minutes; must be hydraulically responsive during its "dough" state; if thermosetting, it must be within skin or environmental tolerance; and the end product to be a flexible, resilient, durable plastic.

This paper describes an acrylic plastic resin that produces a rubbery, resilient end product, and the technic for its use outlined. This plastic, Vernon Chiropody Resin No. 61956, was developed during the course of several years of experimental therapy. It has been tested clinically by many podiatrists-chiropodists for several hundred orthodigital prosthetic devices, including crests. These men agree that Resin No. 61956 has secured a place in the practice of podiatry-chiropody.

## A PRELIMINARY REPORT ON THE EFFICACY OF THE QUATERNARY AMMONIUM COMPOUNDS IN THE TREATMENT OF HYPERHIDROSIS AND BROMIDROSIS

Joseph Nemiroff, 6:10-11, June 1958, N. Y. Journal of Podiatry.

Hyperhidrosis and bromidrosis are conditions which confront podiatrists daily, and patients continue to be plagued by these conditions in spite of the various remedies prescribed by practitioners.

Any agent used can be successful in combating hyperhidrosis and bromidrosis if it has the following characteristics: Astringent without causing irritation; bactericidal and fungicidal; deodorant; non-toxic; it must not adversely affect the color of the skin; and it should be convenient and pleasant to use.

Nemiroff reports on 49 cases of hyperhidrosis and bromidrosis which were treated with Daliderm solution and Daliderm powder (Dalin Pharmaceuticals). Of the 49 cases treated, 18 were considered cured, 30 were considered improved and only one case considered not improved.

## MEDICAL TREATMENT OF DIGITAL DEFORMITIES

M. E. Ashur, Current Chiropody, 2:14-15, Feb. 1958. (From J. New Jersey Chir. Soc.)

Painful disorder of digital deformities may be treated many ways in our profession. As an adjunct to either palliative or corrective mechanical or surgical treatment, the use of drugs has its place as another means of giving relief to skeletal muscle spasms which are seen in digital afflictions of this nature. Local infiltration of pro-

caine hydrochloride, or the application of ethyl chloride spray can relieve a muscular spasm. Ascorbic acid 0.5 to 1.0 Gm daily by mouth should be given routinely to these patients. There is evidence that high blood levels of Vitamin C accelerate tissue repair. The use of ointments (Arthrolgen; Imadyl Unction; Iodex c Methyl Salicylate) is often indicated in skeletal muscle spasm. The use of the mephenesin compounds is of great help in reducing these muscle spasms. They all have selective blocking agent effect on the internuncial system, the means of communication between the nerve centers. Some of the popular mephenesin preparations are Tolseram 0.5 Gm tablets; Mephate capsules; and Mephosal capsules.

## SHOE THERAPY

G. W. McClintock, Footprints of Fla. Chiropody Ass'n., 6:4-8, May 1958.

In classifying feet for shoe therapy we not only consider the feet from a structural standpoint but also from a pathological standpoint. For the structural relationship we must look upon the foot on the basis of its external contour and the various landmarks it offers for comparative purposes in the consideration of the type or last shoe that is needed. The first consideration is the amount of motion in the foot—Flexible, semiflexible or rigid. The second consideration is the arch; a high, medium, or low arch. Also to be considered is the Dorsal Contour of which we have three distinct types; high instep, straight instep, and low or concave instep. The final consideration is the proper metatarsal relationship. This is to say that the measurements should be taken from heel to the fifth metatarsal head as well as the heel to the first metatarsal head.

McClintock discusses the fitting of shoes to the various digital conditions and the metatarsal and mid-tarsal conditions. The author ends his article with a report on the signs of wear on the various parts of a shoe.

## RUNNER'S FRACTURE

M. B. Devas & D. R. Sweetnam, 7:195-196, The Chiropodist, July 1958.

The condition of stress or fatigue fracture of the fibula is described and its frequency emphasized. Its importance as a cause of pain in the ankle and the reasons for the frequent failures in diagnosis are discussed. It is important to appreciate that no fracture is visible in X-rays taken within the first few weeks. The only abnormal physical sign may be a point of tenderness over the fibula just above the lateral malleolus.

The reason for the injury is not clearly understood but it is known that it occurs in bones subjected to prolonged and usually unaccustomed stress. The mechanism whereby a stress fracture is produced in this non-weight-bearing bone is postulated by Devas & Sweetnam. The treatment of the condition is outlined.

## TECHNIQUES & PROCEDURES

H. I. Hecht, Footprints of Fla. Chiropody Ass'n., 1:3-5, July 1958.

This paper discusses Negative Galvanic Nail Surgery, Surgery in the Toe Webs, and Cryotherapy in Verruca Plantaris. The descriptions given are methods used by Dr. Hecht in the office and at the hospital.

## BIFIDISM AND SYNDACTYLISM OF HALLUX

Bilateral in three generations. Lester Hurwitz, Canadian Pod. J., 1:11, Jan. 1958.

Hurwitz presents a case report and x-rays of a fourteen-month-old baby girl involving a double hallux. A similar condition is present in the mother and also in the maternal grandmother. The mother and grandmother both stated that they have never experienced any distress (physical pain) from the double hallux other than some difficulty with shoe fitting.

## DIGESTS FROM THE LITERATURE

*Anyone wishing to read the complete article, if not available in your local library, may borrow it through interlibrary loan. A microfilm may be borrowed from the National Medical Library, Washington 25, D. C., or a photo-duplication may be obtained from that library.*

### ANESTHESIA

*Clinical Investigation of Local Anesthetics,* J. J. Bonica. Anesthesiology 18: 110-25, 1957.

In evaluating the findings of laboratory and clinical investigations of local anesthetic drugs, the essential characteristics to be considered are potency, latency or time of induction, penetration and extension, duration, and toxicity. Differences in toxicity to a drug of animals and man are often overlooked. In order to compare various drugs, it is necessary to standardize conditions, techniques, criteria, and methods of testing; also dosage, concentration and volume of the drug, and whether or not a vasoconstrictor is used and its concentration. Widespread use of a new local anesthesia should not be advised until its superiority has been demonstrated. Methods and techniques of determining fundamental pharmacologic characteristics are described. An ideal local anesthesia will possess the following: (1) anesthetic properties making it useful for all types of regional anesthesia —filtration, topical application, injection about a nerve; (2) selectivity of action—confined principally to nerve tissue; (3) low toxicity in concentrations used clinically; (4) complete reversibility of action —restoration of normal function without sequelae; (5) cause no local pain during or after injections; (6) in time required for anesthesia, latency should be short; (7) duration of anesthesia should be sufficiently long; (7) should not induce idiosyncratic reactions. Measurement of these desirable factors is described. The resulting findings should be compared with those of a standard drug such as procaine.

### CIRCULATORY DISEASES

*Digital Blood Flow Following Reconstructive Arterial Surgery,* O. Creech, Jr., M. E. DeBakey and R. Culotta. Arch. Surg. 74: 5-19, 1957.

Since reconstructive surgery of the aorta and peripheral arteries in treatment of occlusive lesions has been successful in restoring blood flow to normal, it seemed possible that a quantitative measurement of the alteration produced by the disease and by its operative correction might provide data regarding peripheral blood flow which could be clinically useful. Measurements of digital blood flow were made of 25 patients and special studies made of 9 of these subjects, 4 with arteriosclerotic occlusion of the abdominal aorta, 2 with aneurysm of the abdominal aorta and 3 with arteriosclerotic occlusion of the femoral artery, by use of the plethysmographic method of Burch.

In the three cases of aortic occlusion digital blood flow in the lower extremities was only slightly increased soon after luminal restoration, but later blood flow reached almost normal limits; this was possibly due to a gradual reduction in volume of the arterior reservoir, or to reduction in blood pressure secondarily to decrease of peripheral resistance. The effect on peripheral blood flow of luminal distortion produced by the aneurysmal process was shown by the increase in the lower blood flow after resection and homograph replacement of an abdominal aneurysm. Plethysmographic observations during operation indicated differences in collateral circulation in patients having complete aortic occlusion and those having aneu-

rysms. Reactive hyperemia was observed after restoration following temporary aortic occlusion. The study demonstrated that the bypass operation when not successful may reduce peripheral blood flow significantly.

*Chronic Arterial Insufficiency of the Lower Extremities,* M. E. DeBakey, E. S. Crawford and D. A. Cooley. DM: Feb. 1957, 3-45.

This monograph describes the incidence, pathology, clinical manifestations, methods of examination, diagnosis and methods of treatment of this disorder. Operative treatment consists of restoration of blood flow by thrombo-endarterectomy, blood vessel replacement, or lumbar sympathectomy, together with local supportive measures. Arteriosclerosis causing arterial insufficiency of the lower extremities can easily be differentiated from thromboangiitis obliterans. Arteriosclerosis occurs in patients over 40 unless precipitated by diabetes; thromboangiitis obliterans occur in patients in the third to fourth decade. A pulsatile circulation can be restored in most patients having arteriosclerosis, but rarely in those with Buerger's disease. In 436 cases studied, there were 253 patients with occlusion of the aorta-iliac segment and 183 with occlusion of the iliofemoral level. The end-to-side bypass procedure proved most satisfactory in treating peripheral lesions. Conditions found at operation for occlusion of the aorta-iliac segment determined the treatment of choice: excision with graft replacement, excision and by-pass or thrombo-endarterectomy. Over 90 per cent of the total patients had restoration of circulation and symptomatic relief. Amputation was averted in approximately 20 per cent; operative mortality of the entire group was 2.9 per cent. Good results persisted up to 4 years, with small incidence of recurrence.

## DERMATOLOGY AND ALLERGY

*Underlying Mechanisms of Allergy,* J. Peters. GP 15: 86-87, 1957.

Allergic diseases have no specific pathogen. Although emotional upsets may precipitate asthmatic attacks in some cases, in other patients an emotion may terminate such an attack. The weather can have an adverse effect upon the allergic patient. The disease is not hereditary as some claim. Although the nervous system is a factor in allergic disturbances, it is still unknown how the nervous system alters tissue function. Although allergy affects 10 per cent of the population, it rarely occurs among the mentally ill. Patients allergic to certain allergens in a given locality will not react to these same agents in other areas, nor do they react equally to specific therapy in all locations.

Allergy is not always due to a specific factor nor does it necessarily involve an immunologic process characterized by an antigen-antibody reaction. The suggestion is made that the mechanism underlying this disease is the result of molecular or biochemical changes in the neurohumoral system under bodily stress. A specific chemical substance is released in the tissues and disorganizes tissue function when it comes in contact with an irritating factor. A specific genetic pattern of response in affected individuals is physiological and normal to these persons; otherwise the tissues might be destroyed. It is further suggested that biochemical study of the neurohumoral system might lead to a better understanding of allergic diseases and to successful treatment.

## MUSCULOSKELETAL SYSTEM

*Functional Technic in Osteopathic Manipulative Treatment,* H. V. Hoover. J. Amer. Osteopathic Assn. 56: 233-38, 1956.

Abnormal or unusual functioning of any part of the muscular system provides ab-

normal functioning of the entire organism. Changing the functioning of the muscular skeletal system thus altering the reaction of the whole person improves the health of the patient. This functional approach consists of (1) change in mobility and (2) change in the quality of tissue. Interpretation of these facts is a part of diagnosis, and forms a basis for functional manipulation. A touch-perception method of teaching lesion diagnosis and treatment is described, which is based on the reaction of the body. The manipulative technique used in altering the musculoskeletal system is based on the dynamic process of direct changing of function rather than indirect changing of function by the older method of altering structural relationships. Trained postural reflexes are essential to health, but until functional alterations are remedied, good postural training of the body is not attained.

*Shoe Pad for Treatment of Calcaneal Spur,* G. W. Eggers. J. Bone & Joint Surg. 39A: 219-20, 1957.

A painful heel may be due to plantar fasciitis or to a bursitis between the fascia and calcaneal spur. Pressure can be relieved in this area by use of a comma-shaped shoe pad. This lessens tension on the medial aspect of the calcaneus at the insertion of the medial fascia in the area of the spur. The best material to use is sponge rubber one-half inch thick.

*Ankle and Subtalar Fusion by a Transarticular Graft,* A. C. Bingold. J. Bone & Joint Surg. 38B, 862-70, 1956.

Plantar fusion is indicated in cases of flail foot and ankle following poliomyelitis, severe talipes equinovarus, quiescent tuberculosis of the talus, severe fracture of the talus, and degenerative arthritis following such fractures. The procedure used in six patients, one of whom had fracture on both sides, was insertion of a graft from the tibia. Through a "hockey-stick" incision made through the lowest six inches of the fibula and without dividing the medial and superior soft tissue attachment of the talus, the articular cartilage is removed from the ankle and subtalar joints. One inch of the inferior calcaneal surface is then bared through an axial plantar incision and a guard wire driven into the center of the talus, passing three or four inches up the center of the medullary cavity of the talus. Then by means of a cannulated drill, with the heel in neutral position or in slight valgus, a tunnel is cut around the guide wire. While an assistant is removing the cartilage from the lower end of the graft and trims its lower end to fit the hole, this graft is gently tapped until its lower end is flush with the calcaneus. Resection of the talonavicular joint is done if necessary through a separate incision. An inlay graft or a slender beef bone peg is used to secure the navicular to the talus. An above-knee plaster is worn for four months; weight bearing is allowed after three months; a rocking sole afterwards may be required.

Sepsis did not occur in any of these reported cases. The desired degree of valgus, varus, equinus or calcaneus can be determined at the time of operation and the position held by the graft. This procedure has the advantage of being a one-stage operation. Union occurs in four to five months. Since the talus does not become ischemic, the procedure can be used in cases of quiescent tuberculosis of the talus.

*Fracture Dislocation of the Ankle with Fixed Displacement of the Fibula Behind the Tibia,* J. J. Fahey, L. T. Schlenker and R. C. Stauffer. Amer. J. Roentg. 76: 1102-13, 1956.

Three cases are presented with roentgenographic findings, and results of treatment. In all of these patients the lower end of the upper fibular fragment was

locked on the flat tibial surface behind the prominent lower posterior border within 1 cm. of the articular surface. In only one patient manipulation was done previous to open reduction, and he developed a permanent disability; most of this disability seemed to result from the type of fracture and severe twisting force producing it, rather than the remanipulation. In instances of fracture dislocation of the ankle, particularly if closed reduction fails, the syndrome of fixed displacement behind the tibia should be considered. Recognition by careful x-ray study should be followed by open reduction.

*A Splint for Medial Tibial Torsion,* W. P. Barnes, Jr. J. Bone & Joint Surg. 38-A: 382-83, 1956.

A splint is described which is worn at night to correct medial torsion of the tibia and to hold the foot in a controlled position. An A-frame splint is used, consisting of metal foot plates riveted to the soles of high-top shoes, with a long flat aluminum-alloy bar, bent at the foot and at the knee, attached. A calf band and a knee pad are used on each side. Everting the shoe is done by grasping the proximal portion of the splint and twisting the bar laterally with the hand. A felt pad taped to the upright bar against the medial malleolus prevents aggravating flatfoot and prevents bringing the foot into valgus position when tightening the bar. The splint is used at about the age of six months; during the intervening time derotation exercises are done by the mother. The splint is effective up to the age of five years.

*The Results of Arthrodesis of the Great Toe with Special Reference to Hallux Rigidus,* B. T. Crymble. Lancet 2: 1134-36, 1956.

The end-results following arthrodesis performed on 10 toes of 7 patients (7 for hallux rigidus and 3 for hallux valgus) were compared with those following arthroplasty for hallux rigidus in 16 toes of 13 patients, and for hallux valgus in 12 toes of 7 patients. The arthroplasty patients remained in bed for one-half the time the arthrodesis group required. Walking with comfort occurred in about the same time, but arthroplasty took a little less time for complete recovery. In young patients having painful hallux rigidus arthrodesis may be advantageous.

*Metatarsus Primus Varus and Hallux Valgus,* D. C. Durman. Arch. Surg. 74: 128-35, 1957.

From a study of 356 normal feet it was concluded that the ideal normal foot is one in which the first and second metatarsals are parallel, and the great toe extends directly forward in the long axis of the first metatarsal. The average normal foot has a metatarsophalangeal angle of about 20 degrees and an intermetatarsal angle of about 10 degrees. Of subjects with hallux valgus, none had intermetatarsal angles of less than 10 to 18 degrees and metatarsophalangeal angles ranged from 22 to 56 degrees. In another group studied cuneiform deformity was present in 45 per cent of patients with hallux valgus. In more than 50 per cent hallux valgus was secondary to a congenital malformation of the first cuneiform bone which leads to or is concomitant with metatarsus primus varus. Hallus valgus in the growing foot is increased by dynamic intrinsic or extrinsic forces applied to the great toe. A modified Peabody method is described in treatment of these cases. The first metatarsal is not shortened by this operation; if it is already short, it can be lengthened by using a larger graft. Full weight bearing in a cut-out shoe with sponge rubber longitudinal and metatarsal inlays is permitted in three weeks. These inlays should be fitted by a surgeon. Results were satisfactory to all patients but one who required a second operation.

*Postural Deformity,* W. Barlow. Proc. Roy. Soc. Med. 49: 670-74, 1958.

Posture is defined as "a person's willingness and ability to maintain that relationship of the different parts of his body which insures their most efficient behavioral functioning and physiologic functioning both now and in the future." Good posture depends upon the subject's postural awareness and upon the postural model by means of which he detects his postural defects. Thus posture is psychosomatic; habits, attitudes and disposition all play a part, but the patient is attached to them and is reluctant to change. To attain a correct equilibrium between the various parts of the body the subject must learn to release muscular tension and return to a resting state in which the muscles are lengthening.

## NEW GROWTHS

*Osteoid Osteoma,* R. A. Flaherty, D. G. Pugh and M. B. Dockerty. Amer. J. Roentg. 76: 1041-51, 1956.

Fifty-two pathologically proven cases of this benign growth are reported from the Mayo Clinic. These patients, aged from 2 to 52 years, showed involvement in the femur and tibia in 36 instances. Other bones involved were the humerus, ilium, ulna, scapula, fibula, calcaneus, astragalus, vertebra, and mandible. Symptoms were tenderness in the area involved, varying from slight to exquisite; local swelling in some cases with involvement of bone having little overlying soft tissues; and increased skin temperature at the site without redness. A disuse atrophy occurred, according to the duration and severity of the symptoms. The leukocyte count and sedimentation rate were increased slightly in a few cases. X-ray examination in most cases showed a nidus, occasionally with bony sclerosis or proliferation. Sometimes only the reactive bone, or the nidus alone could be seen. The type and amount of reactive bone formation depend upon the bone involved and the position of the tumor within the bone.

## RHEUMATIC DISEASES; ARTHRITIS

*Hypertrophic Osteoarthropathy,* M. Shapiro. Arch. Int. Med. 98: 700-11, 1956.

This chronic proliferative subperiosteal osteitis involves the distal ends of the extremities. The symptoms are pain, swelling and tenderness, attended by joint disorders. Usually there is clubbing of the fingers or toes. Bronchogenic carcinoma seems to be the most frequent cause; other underlying processes include cardiac, hepatic and intestinal disorders. Initially symptomless, as the disease progresses there are severe bone pains attending joint disorders which may cause a diagnois of arthritis. The sites most frequently involved are the tibia, fibula, radius, ulna, metacarpals and metatarsals. A chronic synovitis is associated with the nonspecific degenerative changes in the articular cartilages. Hypertrophic osteoarthropathy occurs in only 5 per cent of cases of bronchogenic carcinoma. Surgical removal or radiation therapy of the lung cancer brings prompt relief from symptoms however crippling they have been. When resection of the lung tumor is impossible, corticosteroid therapy, vagotomy or phlebotomy may be tried. A certain percentage of bronchogenic carcinomas are curable if diagnosed and treated early.

*Gout: Pathogenesis and Treatment;* Pt. I, J. H. Talbott. Merck's Seminar Report 1: 2-7, Fall 1956.

Seventy-five per cent of a series of gouty patients were found to have a positive family history of gout. Some relatives had increased concentration of uric acid in the serum, with no clinical history suggesting acute or chronic disease. Such relatives should be told of this finding, but no treatment is necessary. All patients with elevated uric acid who had acute attacks were

at least 40 years old. Ingestion of purine foods are followed by increased excretion of uric acid in the urine. In non-gouty subjects the amount of uric acid freely diffusible is from 700 to 1400 mg.; in the gouty patient from 2000 to 5000 mg. The antiarthritic steroids, adrenocorticotrophin and prednisone, also phenylbutazone are all mildly uricosuric agents. Probenecid (Benemid) a new potent agent, is from five to eight times as potent as salicylates. The clinical symptoms of gout are inflammation, redness, swelling, heat in the joints, and pyrexia sometimes associated with leukocytosis. The gout occurs first in the metatarsal-phalangeal joint of one or both great toes, followed by involvement of other joints of the hands, feet, then elbows and knees. Some patients pass a urate calculus or show albumin in the urine ten X-ray changes are not evident in the early years or more before the initial attack. years of the disease. Subcutaneous trophi when present are hallmarks of the disease. Uric acid may be present in large amounts without clinical evidence of joint disease. Colchicane is specific for acute gouty arthritis, but has no effect on other types of joint disease. It has no effect upon uric acid metabolism. A small number of rheumatoid arthritic patients have a concentration above 6 mg. but a diagnosis of gout is not warranted.

## MISCELLANEOUS

*Influence of Shoes on Deportment and Gait*, S. M. Clemmesen. Postgrad. Med. 21: 43-51, 1957.

A wrongly constructed shoe can cause the foot to slide forward and downward in the shoe, overloading the forefoot with weight. If the heel of the shoe is constructed with a shallow hollow and a slight inclination, the foot will not slide forward, even if the heels are rather high. The heel should be so placed that the main loading line during standing and weight bearing hits the heel directly in the middle. Such a heel can absorb much of the weight from the forefoot so that the anterior metatarsal arch bears hardly any weight from standing. The heel determines the working positions of the separate joints and range of movements in the different joints of the foot, influencing both gait and the subject's deportment. During walking on the level, the most important foot movement is along one fundamental axis of balance, through the middle of the base of the second toe and the center of the heel. The outer wall of the counter should leave the tuberosities of the fifth metatarsal bone free, while at the same time providing support behind it on the cuboid bone and on the os calcis. In a normal foot the axis through the middle of the heel and base of the second toe divides the front part of the shoe in a proportion of 4 to 5; in a wrong shoe the proportion may be 4 to 4. A correct shoe if too short will force the first toe into valgus position and press it into the decorative part of the shoe. The pointed-toe of a shoe is meant for decoration only; therefore an extra space of about one-half inch is necessary. The big toe should not be forced toward the middle of the foot when the foot slides forward in the shoe during take-off, and the inner part of the shoe should be higher because the big toe is thicker than the other toes. Enough room should be provided in the shoe to allow the toes to bend, stretch and part during walking. Persons who must stand and walk considerably require longer and wider shoes than those who do less. The shoe sole must be broad enough to prevent the foot from pressing against the inside of the shoe, causing the side of the foot to sag outside the shoe edge. The counter should not extend to the tuberosities of the fifth metatarsal bone and ankle bones must not touch the upper edge of the shoe during movements of the foot. The sole should be almost level from side to side.

## ORGANIZATION NEWS

*Secretaries of local, state, regional, affiliated, subsidiary and other related organizations are invited to submit copy for these columns.*

### ILLINOIS

The Illinois Chiropody Society has a new office in the Republic Building, 209 South State Street, Chicago 4, Illinois. The Suite number is 1208 and the telephone, WAbash 2-6735.

#### Annual Golf Tournament Launched

The first annual golf tournament of the Illinois Chiropody Society was held at St. Andrew's Country Club, West Chicago, July 27. Thirty-two entries competed and the winners were: Drs. Bernard Jacobson, Chicago, first place men's, 68; Earl Zatz, second place men's, 69; John Ristvey, Park Ridge, third place men's, 70. First place women's winner was Mrs. Einar Peterson, Chicago, who had a 74. Scores were computed by the Peoria System.

Seventy-two persons attended the banquet held in the evening.

### MICHIGAN

#### Wayne County Chiropody Association

The initial meeting for the year of the Wayne County Chiropody Association was a dinner meeting at Beauchamp's, September 9, 1958, with Dr. Seymour Soloman, President, presiding.

Speakers for the evening were Mr. Vern Carroll and Dr. Harry Lindy. Mr. Carroll of Blue Cross-Blue Shield, reviewed the new Blue Cross M-75 Plan for the group. Dr. Lindy explained the function of the Association Women's Auxiliary in relationship to the P.T.A. and other Civic organizations.

### NEW YORK

In the reporting of the New York House of Delegates, the information that Dr. Morton H. Engel, West Hempstead, New York, was elected Second Vice-President was inadvertently omitted.

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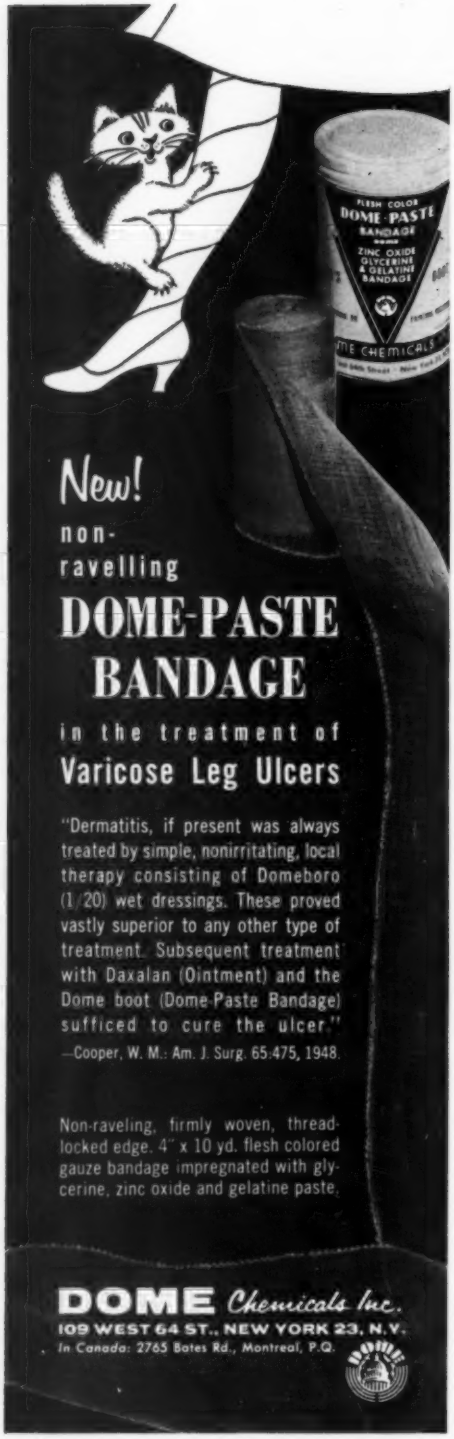
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## PENNSYLVANIA

### Western Division Chiropody Society

The Western Division Chiropody Society of Pennsylvania is announcing "The Golden Renaissance Chiropody Symposium," a full day of scientific discussion and work shop on November 16, 1958 at the Roosevelt Hotel, Pittsburgh, Pennsylvania. The Ball Room, Copper, Victorian, Music, and Civic Rooms will be used.

On the Scientific Program, Dr. Seward Nyman of Washington, D. C., will present "Ingrown Nail Surgery," movie and evaluation panel by three chiropodists-podiatrists experienced in this type of surgery. (Phenol-Alcohol Technique).

Work Shops will consist of Dr. J. G. Forsythe, "Management of Varicose Ulcers"; Dr. Arthur M. Schultz, "Phalangeal Restoration by the Use of Low Voltage and Plastic Crest Therapy"; Dr. Joseph Keener, "Proven, Practical Removable Padding"; Dr. Walter Teskey, "Do It Yourself-Instrument and Equipment Maintenance"; Pittsburgh Steelers, "Meet the Steelers," actual pre-game strapping before the Steelers-New York Giant game.

The luncheon speaker will be J. Edwin Farmer, Executive Secretary of the Ohio Chiropody Association, and Dr. Charles Turchin, President of the District of Columbia Podiatry Society, will speak on "How to add $10,000 to your present income."

## AMERICAN PODIATRY STUDENT ASSOCIATION

The following officers were elected for the American Podiatry Student Association, at the annual meeting in Washington, August 21: President, Scott Hale, Chicago, Ill.; 1st Vice President, Ernest Goldsmith, Orange, N. J.; 2nd Vice President, Albert Perelstein, New York, N. Y.; Secretary, Allen G. Fine, Cleveland, Ohio, and Treasurer, Thomas Burleson, Chicago, Ill.

## FEDERATION OF CHIROPODY BOARDS

At the twenty-third annual meeting of the Federation of Chiropody Boards held at the Shoreham Hotel, Washington, D. C., on

August 23 and 24, the following officers were elected: President, Robert Stess, D.S.C., Perth Amboy, N. J.; President-Elect, Morris Haas, D.S.C., Albuquerque, N. Mex.; First Vice-President, Morse K. Upshaw, D.S.C., Jackson, Miss.; Second Vice-President, A. G. Kalin, D.S.C., Detroit, Mich.; Third Vice-President, Ralph Orr, D.S.C., Erie, Pa.; Secretary-Treasurer, L. A. Hansen, D.S.C., Kansas City, Mo. The retiring president is C. A. Nava, D.S.C., Louisville, Ky. Recommended to the Council on Education for 1959-1960, C. L. Meyer, D.S.C., Galesburg, Ill. Dr. Saul Shafritz, Washington, D. C., was Chairman of the Program Committee.

*Inadvertently someone removed some voided original licenses, voided renewal licenses and copies of Attorneys General Opinions from the exhibit prepared by the Federation of Chiropody Boards. If you find these among your effects, would you please return them to L. A. Hansen, D.S.C., 800 Professional Building, Kansas City, Missouri.*

## NATIONAL BOARD OF CHIROPODY EXAMINERS

The National Board of Chiropody Examiners held its Third Annual Meeting at the Shoreham Hotel, Washington, D. C., August 1958. The following officers were elected: President-Elect, C. L. Meyer, D.S.C., Galesburg, Ill.; Vice President, Milton Gennis, D.S.C., Tulsa, Okla.; Secretary-Treasurer, L. A. Hansen, D.S.C., Kansas City, Mo.; Members of the Executive Committee, LeRoy Numbers, D.S.C., Chicago, Ill.; Edward Tarara, D.S.C., Rochester, Minn.

## DEATHS REPORTED

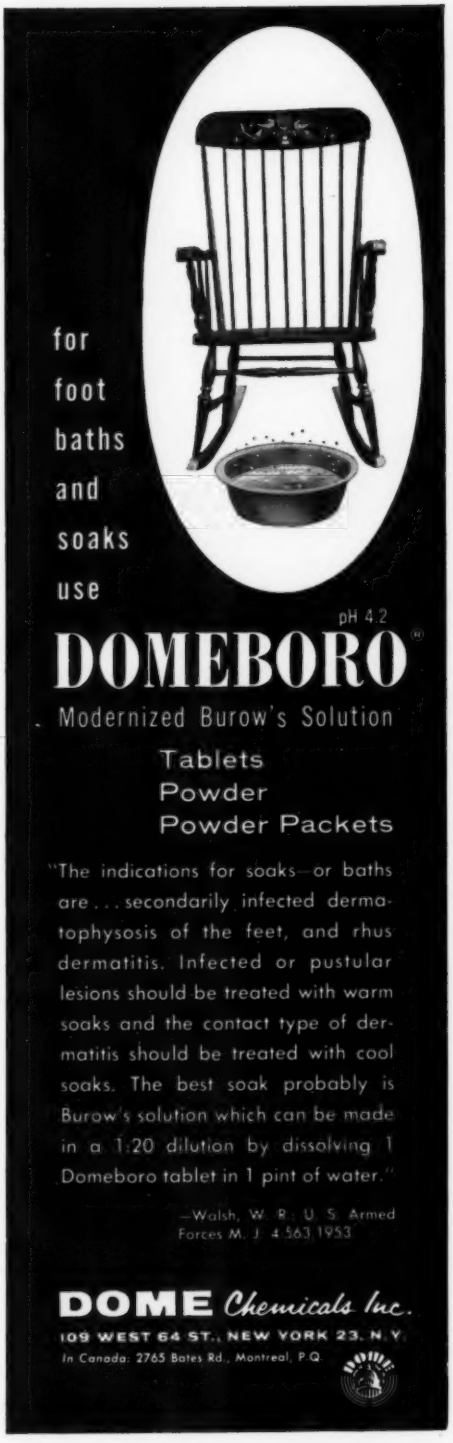
**May H. Barker, Greybull, Wyoming**

Dr. Barker became a Life Member of the Association in 1957.

**Walter A. Bundy, Baltimore, Md.**

**William M. Lee, Baltimore, Md.**

Dr. Lee became a Life Member of the Association in 1954.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—Walsh, W. R.: U. S. Armed Forces M. J. 4:563 1953
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## COMMUNICATIONS FROM THE PROFESSION

To the Editor:

Thank you! This barely expresses my appreciation of having attended the finest convention of our profession ever held. It was truly evident of the sequellae following the change to "Podiatry." Even the word "thrilling" is inadequate.

Sydney M. Kolbert, D.S.C.
Newark, N. J.

To the Editor:

Our profession is one of dignity, dedication and honest purpose. It needs sagacious, honest workers to enhance all its programs.

At the 1958 convention, I was invited to *open* Executive Council meetings, to *open* Council on Education meetings, and to other important *open* meetings attended by groups of sincere, interested, carefully deliberative men of maturity and experience. All did their parts to the fullest extent of their abilities and knowledge.

After listening to many speeches, honest political maneuvering and attending many meetings that lasted for many long, arduous hours, I came to one basic conclusion. I firmly believe that our profession was represented during 1957-1958 by a dedicated, honest, sincere group of men who had no selfish motives. They, like their predecessors, made mistakes which were freely admitted, but they were honest mistakes, based on intense desire to elevate chiropody-podiatry.

Our new leaders will also make mistakes, because they too will try ideas that may be new, but we will profit by both mistakes and productive efforts, and our profession will continue to move forward.

Philip P. Rich, D.S.C.
Akron, Ohio


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**Scientific Basis of Athletic Training, W. B. Saunders, Phila., 1958, p. 174

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## AUDIO-VISUAL CONFERENCE OF THE MEDICAL AND ALLIED SCIENCES

At the direction of President Jonas Morris, I accepted an invitation to be part of an audio-visual conference of the major national medical associations. Representatives of the A.M.A., American Dental Association, American Heart Association, Veterinary Medical Association, Association of Pharmaceutical Colleges, American Osteopathic Association, American Nursing Association, the Institute of Nursing, the American College of Surgeons, and the Canadian Medical Film Board attended this meeting in Chicago, July 26-29. This is a closed conference and only non-profit major medical associations may be members. We have been full members for the past year.

The motivating force in the development of this program has been the American Medical Association's Council on Motion Pictures and Medical Television. Every association's representative outlined the audio-visual program of their respective groups and discussed their objectives.

Briefly, in our presentation we were able to effectively clarify our position in the medical field and to accentuate our position in the field of public health education, professional education, and to elementary and high school health programs.

We submitted the new edition of our list of materials. This produced almost provocative discussion and as a result of same we have been invited by nearly every member to develop mutual exchange programs. The representative of the American Nursing Association specifically requested a volume of materials to be released nationally to their affiliated groups and in addition, an article for publication in their national journals.

At an open session of this conference, outstanding leaders, producers and distributors of medical and health films were invited. This afforded us an opportunity to develop invaluable contacts with several directors of State Boards of Health who were most anxious to disseminate our educational material.

From the above I am sure you can visualize the tremendous potential in all areas of medical and public relations.

The question now arises—what can the individual practitioner in our field gain as a result of this conference? I am sure we will all agree that one of our major obstacles in our desire to fulfill our obligations in the area of public health has been a lack of understanding on the part of many major medical organizations due to our failure to inform them about ourselves. It is true that many of us, on an individual basis, have accomplished a great deal to further our acceptance but it is equally true that many great efforts on the part of the profession have failed because policy-making medical organizations were not fully informed about our profession and our policies.

This was recognized by some of your leaders a few years back and it was during Past President Felton Gamble's administration that our first major liaison with the A.M.A. was established. President Morris

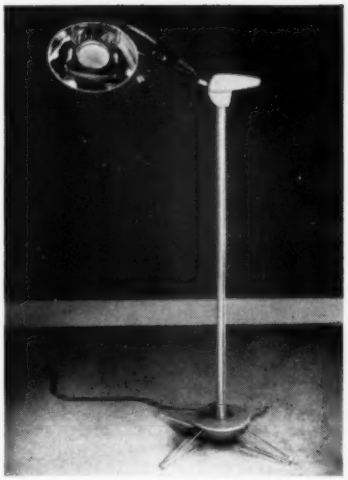
continued this program most effectively and our new President, George Guenzler, is making this a major part of his program.

We, the individual practitioners, are now assigned the responsibility of continuing this program in every community throughout the United States. How can this be done? There are several avenues. First and foremost is the development of the individual's personal medical relations program. Second, develop medical hospital relations workshops on a division and state basis where qualified practitioners can outline a program of study. Third, develop scientific programs for the exchange of information between our profession and allied medical groups. Fourth, participate in medical, nursing, pharmaceutical, and other allied medical meetings and/or conventions by exhibiting scientific materials such as are now available through the Audio-Visual Council of the A.P.A. or personal exhibits.

It is imperative that each member carefully review the detailed reports of his representatives to our House of Delegates, study the reports of the various national committees and follow their recommendations. If this is done collectively by all of us, the desired public relations that we are so desperately seeking will soon manifest itself.

My thanks to the 1957-58 Members of the House of Delegates for their encouragement, advice and guidance in this area of activity and a special thanks to Dr. M. M. Greenfield, Secretary of the Audio-Visual Council.

MARVIN W. SHAPIRO, D.S.C.
President-Elect
Toledo, Ohio

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## CONVENTION DATES AND MEETING NOTICES

**American Podiatry Association**
New York, N. Y.
August 14-18, 1959
Waldorf-Astoria Hotel

**Region One**
(Conn., Maine, Mass., N. H., R. I., Vt.)
Boston, Mass.
Oct. 17, 18, 19, 1958
Sheraton Plaza Hotel

**Region Two**
(New York)
New York, N. Y.
Feb. 20-22, 1959
Barbizon Plaza Hotel

**Region Three**
(Del., Md., N. J., Pa.)
Atlantic City, N. J.
May 7-10, 1959
Ambassador Hotel

**Region Four**
(Ohio)
Columbus, Ohio
May 21-23, 1959
Deshler-Hilton Hotel

**Region Five**
(Ill., Ind., Mich., Wis.)
Chicago, Ill.
March 20-22, 1959
Morrison Hotel

**Region Six**
(Colo., Iowa, Kan., Minn., Mo., Nebr., N. Dak., S. Dak.)
Kansas City, Kans.
April 10-12, 1959
Town House Hotel

**Region Seven**
(Idaho, Mont., Oreg., Wash., Wyo.)

**Region Eight**
(D. C., N. C., S. C., Va., W. Va.)

**Region Nine**
(Florida)

**Region Ten**
(Ala., Ga., Ky., Miss., Tenn.)
Memphis, Tenn.
Oct. 10-12, 1958
Peabody Hotel

**Region Eleven**
(Ark., La., N. Mex., Okla., Texas)

**Region Twelve**
(Ariz., Cal., Nev., Utah)
Western Chiropody Congress
San Francisco, Calif.
May 29-30, 1959
Mark Hopkins Hotel

**American College of Foot Surgeons**
Las Vegas, Nev.
Feb. 16-18, 1959
Riviera Hotel


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The lasting significance of the statistical data to be compiled from the Children's Foot-Health Examinations throughout the country during this "week" is entirely dependent upon the cooperation of those men participating in the program in submitting this information to the local Chairman, or directly to the American Foot Health Foundation.

The results of these studies will be invaluable to the Foundation in connection with its special research and statistical services to government, industry, public health and educational agencies.

The AFHF gratefully thanks those farsighted men in the profession who have already pledged active participation in this program.

The Board of Directors of the Foundation particularly acknowledges the unselfish contribution of Dr. Murray B. Goldstein of Flushing, New York, who originally developed the functional operating methods for conducting mass children's foot examinations and the successful pilot program, upon which the Foundation created the structure to enable the entire profession to expand the project on a national scale as a public service through American Youth Foot Care Week.


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(1) Noojin, R. O. and others: Am. Pract. & Digest Treat. *5*:186, 1954. (2) Edelson, E.: Med. Times *82*:37, 1954. (3) Peck, S. M. and others: A.M.A. Arch. Dermat. & Syph. *67*:263, 1953. (4) Ignatoff, W. B.: J. New Jersey Chirop. Soc., Apr. 1953.

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**A.O.P.**

Letter received by a colleague, W.B.I.

"Dear Doctor

From my experience I know that Athlete's Foot is highly contagious. It can be an external infection by contact or it can be an internal infection. When the fungus touches the inner tips of the outer ear the fungus is slowly absorbed into the ear tips directly to the nerve system. It becomes a fungus infection of the nerve system. It creates an extreme acid condition that destroys fatty tissues and nerve cells over a period of time. It affects the whole body, jaws, throat, heart, stomach, rectal area, etc. In the last stages it could be cancer for the inner ear tips act as a feeder for the infection. It cannot be treated thru the inner ear tips. Any medication or powder applied to the tips over a period of 2 weeks or longer will cause a severe gaspy throat and a semi-numb feeling over the entire body. It could be treated internally. Blisters break out on the lobe of the ear soon after the fungus is absorbed into the ear tips. This is the beginning of a slow deterioration of the internal organs.

Even tho the ear tips act as a feeder, reinfection can occur each time the fungus touches the ear tips. It causes a high fever and stomach upset.

## *ANNOUNCEMENT*

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After each reinfection blisters break out on the lobes of the ears.

I know this is not in the medical books. Finding a cure has been delayed 15 months because the medical doctors that I have contacted refuse to believe it. Even tho you may think it is impossible it is true.

Mrs. C. W. C., California"

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brains. What a man looks for in a woman after he's looked at everything else.

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convention. An excuse for doing the unconventional.

*T. Harry Thompson*

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*Tennessee Ernie*

commercial. The first and last half hours of a fifteen-minute program.

*Bennett Cerf*

conscience. Something that makes you tell your mother before your sister does.

*Milwaukee Journal*

committee. A group of the unfit, appointed by the unwilling to do the unnecessary.

*Victor Riesel*

censor. A man who has never gotten over the initial embarrassment of having been born in bed with a lady.

*Sydney L. Harris*

debt. A trap that man sets and baits himself, and then deliberately gets into.

*Josh Billings*

education. The ability to quote Shakespeare without crediting it to the Bible.

*Evan Esar*

inflation. A fate worse than debt.

*Rod MacLean*

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jury. Twelve men chosen to decide which side has the better lawyer.

*Santa Fe Magazine*

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lorgnette. A dirty look you can hold in one hand.

*Hudson Newsletter*

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lowbrow. A person who can't appreciate something he doesn't like.

*Lester V. Berry*

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punctuality. A grand-stand play to an empty park.

*Jack Benny*

---

petition. A list of people who didn't have the nerve to say "no."

*The Sign*

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peace. A short pause between wars for enemy identification.

*Clemens Kirchner*

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taxes. A state we are all deep in the heart of.

*Wall Street Journal*


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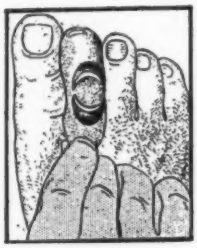

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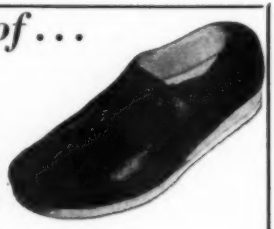

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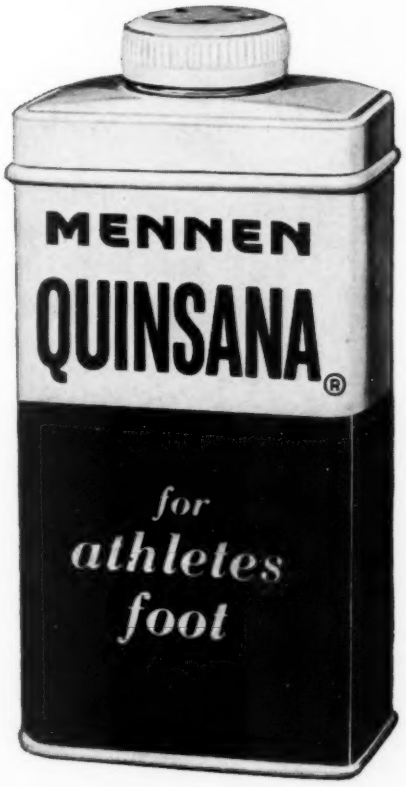

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